DRAFT
Field Observations Report
Dominion Chesterfield Power Station
Chester, VA
June 29 – July 2, 2009

Prepared for:

U.S. Environmental Protection Agency
1200 Pennsylvania Avenue
Washington, DC

October 2009

Science Applications International Corporation (SAIC)
12100 Sunset Hills Road
Reston, VA 20190

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October 15, 2009

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ETS-2-11(CE)

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Facility Name:	Dominion Chesterfield Power Station
Facility Address:	500 Coxendale Road Chester, VA 26041
Facility Operator:	VPCO/Dominion Generation
Owner:	Virginia Electric and Power Company
Owner Address:	5000 Dominion Blvd. Glen Allen, VA 23060
Dates of Inspection/Sampling:	June 29 - July 2, 2009
Inspectors:	Martin Matlin, EPA Region 3 (Lead) Jim Rawe, SAIC Amber Steed, SAIC Brandon Peebles, SAIC
Observers:	Willard Keene, Virginia DEQ
Point of Contact:	Carissa Agnese, Senior Environmental Compliance Coordinator Dawn Garber, Supervisor Environmental Quality

1.0 Introduction

The Waste & Chemical Enforcement Division (WCED), Office of Civil Enforcement, in conjunction with the Office of Compliance and EPA Regions, has initiated an exploratory effort to investigate the extent to which companies in a variety of sectors may have engaged in the illegal disposal of hazardous waste in surface impoundments. This effort is consistent with WCED's goal to target and develop enforcement actions under the Resource Conservation and Recovery Act (RCRA), the Emergency Planning and Community Right-to-Know Act (EPCRA), and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), against persons engaged in significant non-compliance that substantially affects human health or the environment. WCED needs to gather and assess information related to surface impoundments; target facilities with surface impoundments based on risk and other factors; inspect and investigate activities at targeted facilities; develop enforcement actions as appropriate; and assess the data and other information gathered through these efforts.

2.0 Background

2.1 Purpose

EPA inspected the Chesterfield Power Station (CPS) coal-fired power plant the week of June 29, 2009 to determine compliance with applicable RCRA, Clean Water Act (CWA), EPCRA and other statues. The investigation also focused on determining what types of wastes are generated, how the wastes are managed, and how the wastes are disposed of. Science Applications International Corporation (SAIC) was tasked to assist in the investigation by providing technical support for EPA. Also, SAIC was tasked and prepared to collect water and soil samples at the facility. These samples were analyzed for compliance with RCRA, CWA, and other relevant statutes. This report summarizes the activities performed by SAIC in support of EPA. Information in this report is based on interviews with CPS personnel, site observations, and review of documents provided by CPS. Other sources of information are noted where applicable.

2.2 Site and Process Description

The Dominion CPS is located 15 miles south of Richmond on the James River in Chesterfield County. Figure 2-1 is an overhead photo of the plant site. The plant operates 25 hours per day, 7 days per week with more than 200 employees. The station can generate more than 1700 megawatts (MW). Table 2-1 describes the power generating units at CPS. Units 3 through 6 utilize approximately 32 million tons of Appalachian bituminous coal per year with an estimated ash content of 10 percent. Approximately 10,000 tons of coal are transported to the site via train and fed directly to the units (boilers), surge hoppers (silos), or stored in bunkers where a 30-day supply is typically maintained. Coal is gravity fed from overhead silos to coal mills where it is pulverized and pneumatically fed to the boilers. No. 2 Fuel Oil is used for startup and flame stabilization. The fuel oil is shipped via river barge then transferred to an 11 million-gallon aboveground storage tank. Fuel oil or natural gas is burned in Units 7 and 8. Natural gas is received through a pipeline.

Figure 2-1. Overhead Photo of CPS

Table 2-1. CPS Generating Units

Unit Number	Size (MW)	Began Operation	Fuel	Burner Type	Particulate Control	NOx Control	SO_2 Control
Unit 1	NA	1945	Retired in 1982	NA	NA	NA	NA
Unit 2	NA	1949	Retired in 1982	NA	NA	NA	NA
Unit 3	110	1952	Coal fired	Low NOx	ESP	None	FGD in 2012
Unit 4	181	1960	Coal fired	Low NOx	ESP	SCR	FGD in 2011
Unit 5	344	1964	Coal fired	Low NOx	ESP	SCR	FGD in 2011
Unit 6	693	1969	Coal fired	Low NOx	Baghouse	SCR	FGD
Unit 7	238	1990	Combined cycle with heat recovery steam generator		NA	Steam injection	Low-S fuel
Unit 8	241	1992	Combined cycle with heat recovery steam generator		NA	Steam injection	Low-S fuel

ESP = electrostatic precipitator
SCR = selective catalytic reduction using ammonia
FGD = flue gas desulfurization using limestone slurry – produces gypsum for conveyor transport to an adjacent wallboard production facility (not owned by VPCO)

2.3 Major Raw Materials and Waste Streams

CPS utilizes coal, fuel, oil, natural gas, limestone, ammonia, and boiler chemicals in the process of generating electricity. Coal, oil, and natural gas fuel the boilers. At Units 3 through 6, coal is pulverized and pneumatically fed into boilers where it is combusted to create heat in the fireside of the boiler. Oil and natural gas are injected into Units 7 and 8. Water in tubes on the outside of the boiler (waterside) exchanges heat from the fireside and boils to form steam. Steam propels turbine blades used to generate electricity. Exhaust gases exit via stacks after treatment to remove heat, particulates, nitrous oxides (NOx), and sulfur dioxide (SO_2). A simplified schematic water flow diagram is presented in Figure 2.2. The water cycle is further discussed in Section 6.3. Particulate removal is accomplished either by electrostatic precipitators or baghouses. The resultant waste form both processes is fly ash. NOx is removed using ammonia sprayed onto a catalyst in the exhaust stack to reduce NOx to form nitrogen. Limestone, transported on river barges, is ground, slurried, and sprayed into FGD (countercurrent to exhaust gas flow) to scrub SO_2 from stack gases. Limestone reacts with SO_2 to form gypsum. CPS controls chloride content of gypsum to ensure all gypsum is marketable to off-site customers.

Table 2-2. CPS Major Raw Materials Used

Raw Material	2008 Usage *	Units	Purpose
Coal	2,904,356	Tons	Boiler fuel
Fuel Oil	9,345	Gallons	Boiler fuel
Natural Gas	5,411,504	CF	Boiler fuel
Limestone	46,834	Tons	Flue gas desulfurization
Ammonia	7,646,827	Lbs	NOx removal from stack gases
Hydrated Lime	Not known	Lbs	Wastewater treatment
Lubricating Oil	Not known	Gallons	Equipment lubrication

* Annual usage for 2008 based on TRI data provided to EPA/SAIC inspectors.

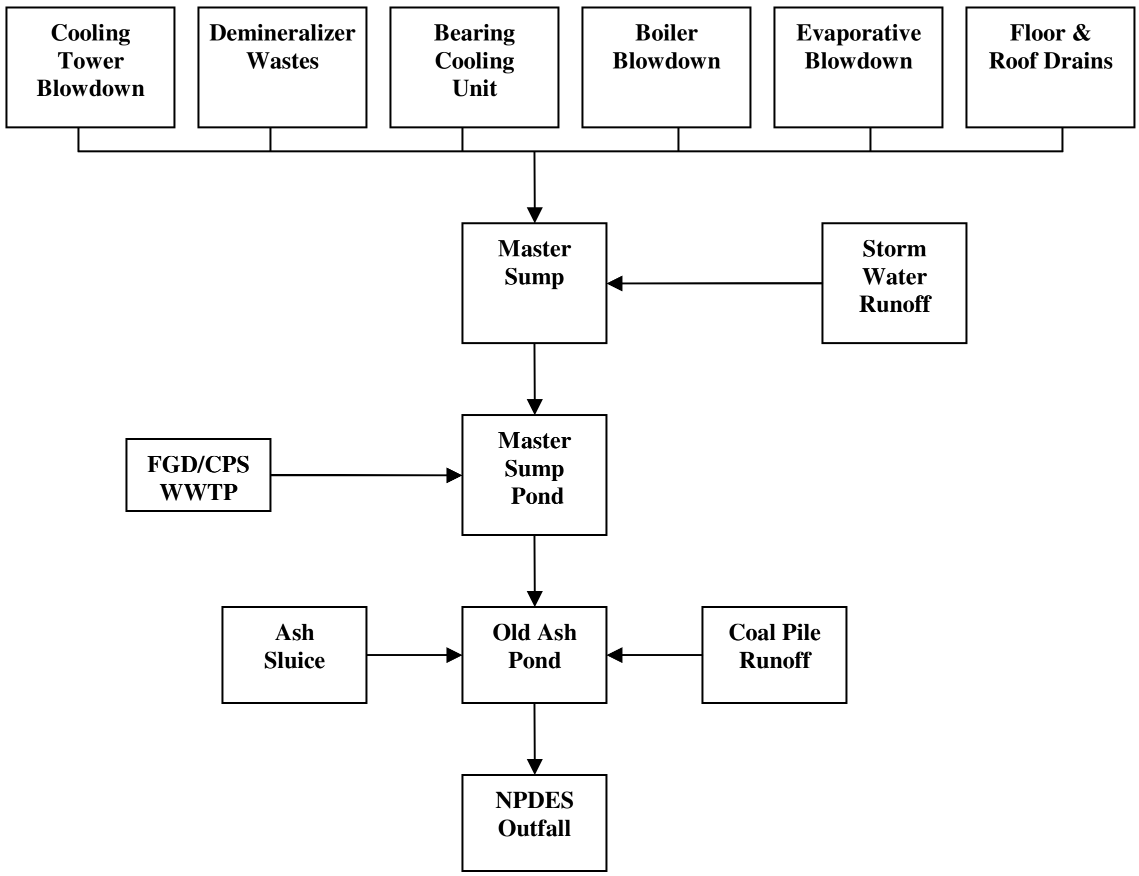


Figure 2-2. Water Flow Schematic Diagram

Bottom ash and fly ash are two of the largest waste streams and are Bevill-exempt RCRA wastes. They are sluiced for transport via pipes to the ash pond. Coal pile runoff is also a Bevill-exempt waste; it is collected and discharged to the Old Ash Pond.

Non-uniquely associated wastes include cooling tower blowdown, wastewater from demineralizer backwash, bearing cooling water, boiler and evaporative blowdown, and wastewater from floor and roof drains. These wastewater streams flow through the Master Sump to the Master Sump Pond and then through the Old Ash Pond.

Table 2-3. CPS Major Waste Streams

Waste Stream	2008 Disposal	Units	Disposition
Bottom Ash	70,000,000 *	Lbs	Ash Pond
Fly Ash	Unknown	NA	Ash Pond
Pyrite	Unknown	NA	Ash Pond
Boiler Slag	Unknown	NA	Ash Pond
Cenospheres	2,000,000	Lbs	Recycle
Waste gypsum	28,000	Tons	Ash Pond

* not tracked; estimate

Pyrite (pulverized coal rejects) and boiler slag are major non-aqueous Bevill wastes produced at the plant. They are transported for disposal in dry form to the dry pond which is undergoing closure. Much of the gypsum formed in the FGD process is marketed. Off-specification or extra gypsum which is not sold is also transported to the dry pond for ultimate disposal.

Information in this report was provided by Dominion personnel during the inspection.

3.0 Daily Activities

3.1 Monday, June 29th – Project Kickoff Meeting

Monday, June 29, 2009 was a travel day for the entire inspection team. The Science Applications International Corporation (SAIC) team of Jim Rawe, Amber Steed, and Brandon Peebles met with Martin Matlin of the Environmental Protection Agency (EPA) Region 3 and Willard Keene of the Virginia Department of Environmental Quality on Monday evening. A brief meeting was held to discuss an agenda for the inspection and sampling over the course of the week and briefly review health and safety issues.

3.2 Tuesday, June 30th – Process Overview and Document Review

On Tuesday morning, June 30th, the entire EPA/SAIC inspection team arrived at the facility at 9:10 AM. Mr. Matlin introduced himself to the security guard at the entrance and announced that EPA planned to conduct an unannounced inspection of the CPS facility. Dawn Garber, Supervisor, Environmental Quality, was the point of contact for the inspection team. Ms. Garber along with Carissa Agnese, Senior Environmental Compliance Coordinator, met the inspection team in a conference room located in the administrative building. Introductions were then made between the EPA/SAIC inspection team and the Chesterfield Power Station representatives. Mr. Matlin stated the intent of the inspection, presented his credentials, and began the opening conference. After the opening conference, the question and answer session about the facility began. Ms. Garber and Ms. Agnese proceeded to provide the inspection team with detailed background and process information on the Chesterfield facility over the next two hours. At 11:25 AM, the CPS representatives suggested that the inspection team take an hour and participate in a "windshield" walkthrough of the facility. The "windshield" walkthrough consisted of the EPA/SAIC inspection team splitting up between two vehicles and taking a driving tour around the entire facility. Ms. Garber drove one vehicle and led the tour, while Ms. Agnese drove the second vehicle. The inspection team requested to stop at certain areas of the facility and physically look around. The first stop on the walkthrough was the 90-day accumulation storage area. After a brief discussion, the inspection team and CPS representatives continued the walkthrough. Other areas visited included the wastewater treatment area, the master sump pond, the dry pond, and the electrostatic precipitators. After the walkthrough was completed, the team regrouped in the conference room. The EPA/SAIC team presented Ms. Garber and Ms. Agnese with a list of documents that were needed for the regulatory review, including Tier II and TRI documents, RCRA manifests and training records, the Spill Prevention Control Countermeasures (SPCC)/Facility Response Plan (FRP), the Stormwater Pollution Prevention Plan (SWPPP), and Discharge Monitoring data (DMR) data for the past two years. At this time, the inspection team also presented a list of sample containers that the facility needed to obtain to efficiently split samples. Ms. Garber and Ms. Agnese suggested the inspection team take a short lunch break in order for them to retrieve the appropriate documents. After the lunch break, the EPA/SAIC inspection team reviewed documents and asked questions related to the regulatory review. During the afternoon review session, the team was introduced to Willy Brockwel, Senior Chemist, at Chesterfield Power Station. Mr. Brockwel was brought in to assist with questions regarding the water flow diagram and outfalls at the facility. The inspection team departed the facility for the day at approximately 5:00 PM.

3.3 Wednesday, July 1st - Sampling

On Wednesday morning, July 1st, the EPA/SAIC inspection team arrived on-site at 8:30 AM. The team met Ms. Agnese at the front gate. She stated that Ms. Garber was out of the office for the rest of the week on personal leave. Therefore, Ms. Agnese became the inspection team's main point of contact. The EPA/SAIC inspection team presented CPS representatives with a list of the water and soil sampling locations for the remainder of the week. The entire day was dedicated to collecting water and soil samples at the Chesterfield facility. The first sample was collected at 9:23 AM, and the last sample for the day was collected at 3:55 PM. After the last sample was collected, all of the coolers were prepared for proper shipment. Further sampling details (locations, methods, times, etc.) can be found Section 4.0. After properly preparing the coolers for shipment, the inspection team departed the facility at approximately 6:00 PM.

3.4 Thursday, July 2nd – Sampling and Records Review

The EPA/SAIC inspection team arrived Thursday morning, July 2nd, at 8:30 AM. The first half of the day was dedicated to collecting the remaining water and soil samples from the Chesterfield facility. The first sample was not collected until 9:30 AM because the facility ran out of sample containers. The last sample was collected at 11:44 AM. Further sampling details (locations, methods, times, etc.) can be found in Section 4.0. After a short lunch break, the inspection team spent the rest of the afternoon reviewing regulatory documents and data. Some team members participated in a tour to gather additional information on some the facility's tanks and storage areas, while other team members continued to review training records and data in the remaining time.

EPA originally planned to complete the inspection on Friday, July 3rd. However, July 3rd was a holiday for Dominion personnel, and CPS representatives requested that the closing conference take place at the end of the day on Thursday, July 2nd. The closing conference began at 4:45 PM. Mr. Matlin and Mr. Rawe participated from the EPA/SAIC team, while Ms. Agnese and Mr. Miller, Operations Manager, participated for CPS. During this time, Ms. Steed and Mr. Peebles prepared sample coolers for shipment. After the conclusion of the closing conference and sample packaging process, the EPA/SAIC team departed the facility at 6:00 PM.

4.0 Sampling Activities and Field Observations

4.1 Background on Bevill Wastes

EPA is investigating the waste disposal practices at coal-fired power plants as they relate to the Bevill exclusion. The Bevill exclusion exempts from hazardous waste regulation independently managed large-volume wastes generated at coal-fired electric utilities that use coal as the primary fuel feed in their operations. These large-volume wastes are:

- fly ash waste
- bottom ash waste
- slag waste and
- flue gas emission control waste.

Other wastes from the combustion of coal or other fossil fuels are also Bevill exempt from regulation under RCRA subtitle C. These include:

- coal combustion wastes generated at non-utilities
- coal combustion waste from fluidized bed combustion technology
- petroleum coke combustion wastes
- waste from the combustion of mixtures of coal and other fuels
- wastes from the combustion of oil and
- wastes from the combustion of natural gas.

Finally, large-volume coal combustion wastes generated at electric utilities and independent power producing facilities that are co-managed with other coal combustion wastes are exempt. Common low-volume wastes fall into two categories: uniquely-associated and non-uniquely associated wastes. Common uniquely associated wastes are:

- coal pile runoff
- coal mill rejects such as pyrite and off-specification coal
- wastes from the cleaning of the exterior surfaces of heat exchangers
- floor and yard drains including wash water and stormwater
- wastewater treatment sludges and
- boiler fireside (inside of boiler tubes) chemical cleaning wastes.

If these low-volume, uniquely associated wastes are not co-managed with large-volume fossil fuel combustion wastes, they may be subject to regulation as hazardous wastes if they are listed or exhibit a hazardous characteristic.

Low-volume wastes that typically are non-uniquely associated wastes and are not exempt are:

- boiler blowdown
- cooling tower blowdown and sludge
- intake and makeup water treatment and regeneration wastes
- boiler waterside cleaning wastes
- lab wastes
- construction and demolition debris
- general maintenance wastes and
- spills and leaks of process materials that generate non-uniquely associated wastes.

In particular, EPA is interested in the disposal of non-uniquely associated wastes with Bevill excluded wastes, and SAIC sampling focused on sources potentially meeting these parameters.

4.2 Sample Collection Overview

Samples were collected from the Chesterfield facility on Wednesday, July 1st (Section 4.3) and Thursday, July 2nd (Section 4.4). Table 4-1 describes type and location of sludge/sediment samples as well as the number and type of sample containers filled for each sample. Table 4-2 describes type and location of wastewater samples, and the number and type of samples containers filled for each sample. Figure 4-1 is a copy of a site water flow diagram with sample locations identified.

Table 4-1. Sludge/Sediment Sampling Locations and Number and Type of Sample Containers Used

Sample Number	Sample Location	Volatiles	Ignitability/ Reactivity/ pH	SVOC/ PCB	TCLP	Metals
		4-oz Wide Mouth Glass 1	4-oz Wide Mouth Glass 1	4-oz Wide Mouth Glass 1	16-oz Wide Mouth Glass 2	4-oz Wide Mouth Glass 1
CS-1	Northwest Side of West Ash Pond (Surface Impoundment)	X	X	X	X	X
CS-2	Northwest Side of Metals Pond	X	X	X	X	X
CS-3	Northwest Side of Master Sump Retention Basin (Surface Impoundment)	X	X	X	X	X

Table 4-2. Wastewater Sampling Locations and Number and Type of sample Containers Used

Sample ID	Sample Location	Volatiles	Ignitability	SVOC/ PCB	TCLP	Reactivity	Metals	TCLP
		40-ml VOA 2	4-oz Glass 1	1 L Amber 2	1 L Amber 3	300-ml Plastic 1	300-ml Plastic w/ HNO3 1	40-ml VOA 2
CW-1	RO Reject Stream	X	X	X	X	X	X	X
CW-2	Sand Filter Delta Backwash	X	X	X	X	X	X	X
CW-3	Lamella Unit (00-WTC-CL-2B) Backwash - Water Treatment Building	X	X	X	X	X	X	X
CW-4	Multimedia Backwash from the B Filter Unit (O-RSS-TK-1) in the Water Treatment Building	X	X	X	X	X	X	X
CW-5	Softener Backwash from the A Softener Unit (O-RSS-1-1A) in the Water Treatment Building	X	X	X	X	X	X	X
CW-6	CPS West Side of Metals Pond	X	X	X	X	X	X	X
CW-7	Bearing Cooling Unit #3 Blowdown in the Plant Building	X	X	X	X	X	X	X
CW-8	#4 Boiler Blowdown in the Plant Building	X	X	X	X	X	X	X
CW-9	#6B Boiler Blowdown in the Plant Building	X	X	X	X	X	X	X
CW-10	Master Sump	X	X	X	X	X	X	X
CW-11	Master Sump –Field Duplicate	X	X	X	X	X	X	X
CW-12	Cooling Tower	X	X	X	X	X	X	X

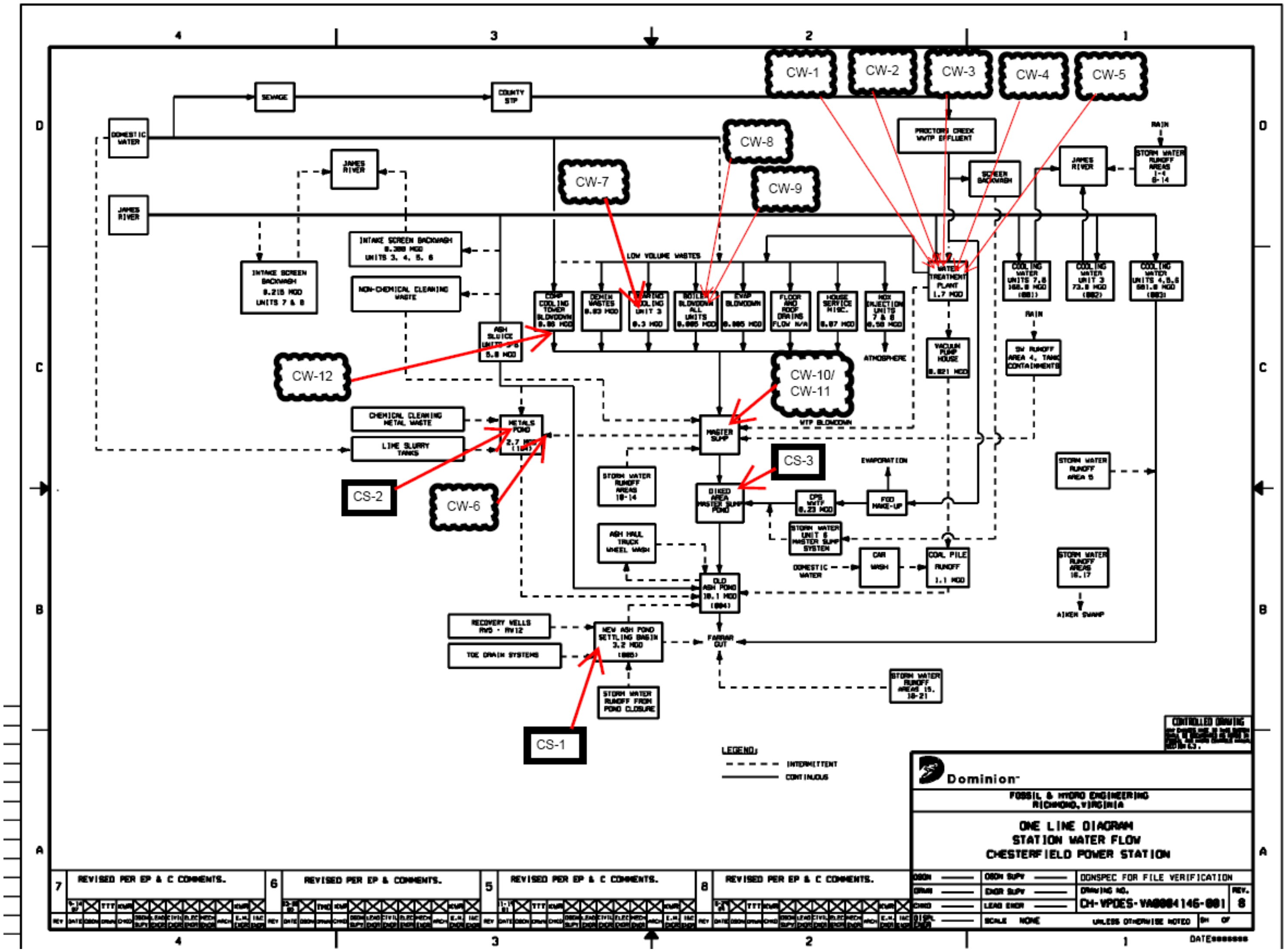


Figure 4-1. Sample Locations

4.3 *Wednesday, July 1st Sampling Activities*

This section provides specific information on each sample collected on Wednesday, July 1, 2009.

4.3.1 Sample CS-1

Table 4-3 presents information for sludge/sediment sample CS-1. SAIC personnel alternately collected samples for EPA/SAIC and CPS in accordance with the approved Quality Assurance Project Plan[1] (QAPP).

Table 4-3. Sample CS-1

Location	Northwest Side of West Ash Pond (Surface Impoundment)
Date	July 1, 2009
Start Time	9:23 AM
Finish Time	9:43 AM
Sample Type	Grab
Matrix	Sludge/Sediment
Sample Collection Method	A 1-liter Teflon dipper with a long Teflon handle was used to scrape the bottom of the impoundment to obtain a sample. After a sufficient amount of sample was collected to approximately fill a 13-quart stainless steel bowl, the sample was mixed with a stainless steel spoon for one minute (until the consistency appeared homogenous). The sample was then scooped and packed into the sample bottles using a stainless steel spoon and trowel. In addition, the sample contained a small amount of excess water, which was poured off prior to filling the sample bottles.

Figure 4-2 is a photograph of the CS-1 sampling location.

Figure 4-2. Sample CS-1: CPS Northwest Side of Wet Ash Pond (Surface Impoundment)

4.3.2 Sample CW-1

Table 4-4 presents information for wastewater sample CW-1. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. CPS collected independent samples after SAIC/EPA sampling was finished.

Table 4-4. Sample CW-1

Location	Reverse Osmosis (RO) Reject Water in the Water Treatment Building
Date	July 1, 2009
Start Time	11:45 AM
Finish Time	11:51 AM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	Sample bottles were placed under the RO reject water spigot to obtain the sample. The wastewater was collected directly into the containers.

Figure 4-3 is a photograph of the CW-1 sampling location.

Figure 4-3. Sample CW-1: CPS Reverse Osmosis (RO) Reject Water in the Water Treatment Building

4.3.3 Sample CW-2

Table 4-5 presents information for wastewater sample CW-2. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. EPA/SAIC and CPS alternately collected samples.

Table 4-5. Sample CW-2

Location	Backwash from Sand Filter Delta in the Water Treatment Building
Date	July 1, 2009
Start Time	1:46 PM
Finish Time	1:51 PM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	A 1-liter Teflon dipper with a long Teflon handle was placed under the approximately 16-inch diameter backwash drain pipe in the building trench drain. The wastewater was poured from the dipper into bottles through a stainless steel funnel. Due to the configuration of the drain pipe, the high flow of the wastewater stream, and the slow draining of the wastewater, the sand filter backwash had to be manually stopped and restarted to allow for draining of the wastewater in the trench drain. This process was conducted to ensure the Sand Filter Delta Backwash wastewater stream was not contaminated by other wastewater streams in the building trench drain.

Figure 4-4 is a photograph of the CW-2 sampling location.

Figure 4-4. Sample CW-2: CPS Backwash from Sand Filter Delta in the Water Treatment Building

4.3.4 Sample CW-3

Table 4-6 presents information for wastewater sample CW-3. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. EPA/SAIC and CPS alternately collected samples.

Table 4-6. Sample CW-3

Location	Lamella Unit (00-WTC-CL-2B) Backwash in the Water Treatment Building
Date	July 1, 2009
Start Time	2:10 PM
Finish Time	2:16 PM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	Sample bottles were placed under the Lamella Unit Backwash spigot to obtain the sample. The wastewater was collected directly into the sample containers.

Figure 4-5 is a photograph of the CW-3 sampling location.

Figure 4-5. Sample CW-3: CPS Lamella Unit (00-WTC-CL-2B) Backwash in the Water Treatment Building

4.3.5 Sample CW-4

Table 4-7 presents information for wastewater sample CW-4. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. SAIC/EPA and CPS alternately collected samples.

Table 4-7. Sample CW-4

Location	Multimedia Backwash from the B Filter Unit (O-RSS-TK-1) in the Water Treatment Building
Date	July 1, 2009
Start Time	2:32 PM
Finish Time	2:40 PM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	Sample bottles were placed under the Multimedia B Filter Unit Backwash spigot to obtain the sample. The wastewater was collected directly into the sample containers.

Figure 4-6 is a photograph of the CW-4 sampling location.

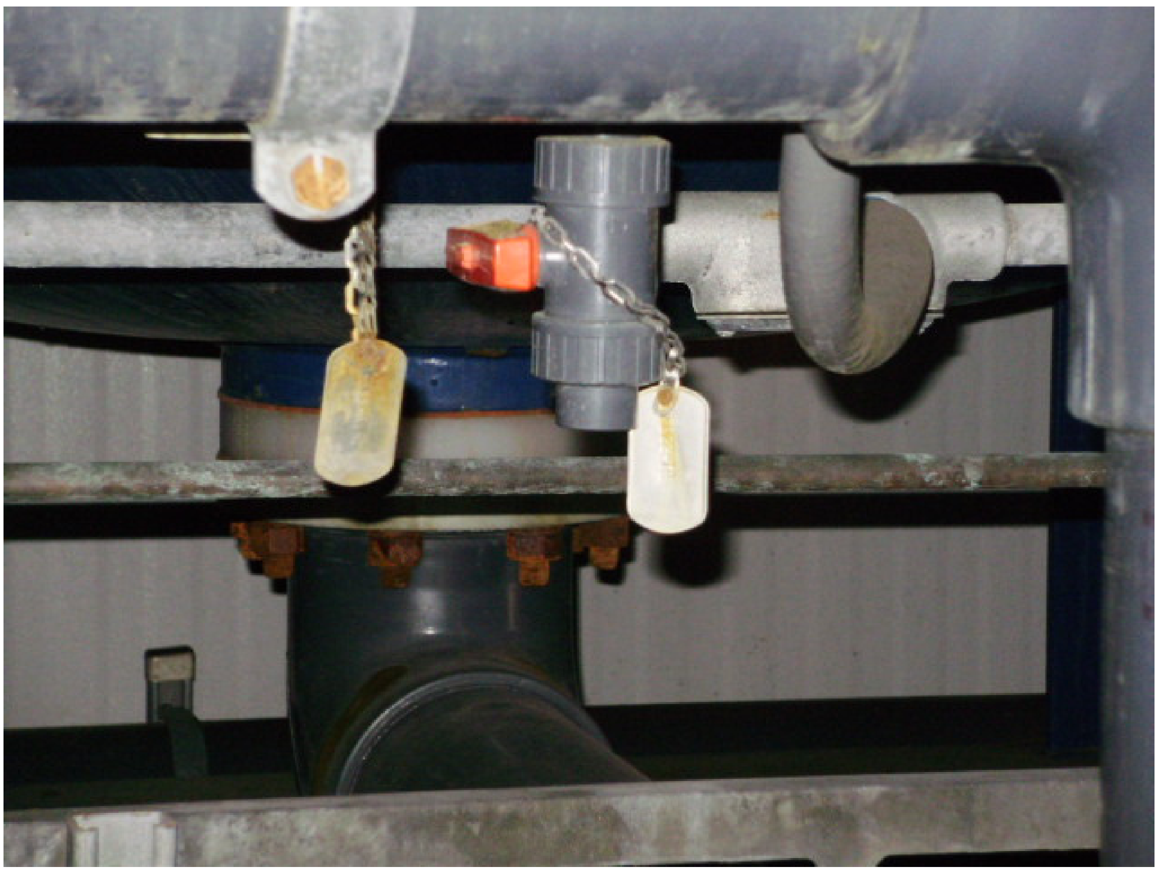


Figure 4-6. Sample CW-4: CPS Multimedia Backwash from the B Filter Unit (O-RSS-TK-1) in the Water Treatment Building

4.3.6 Sample CW-5

Table 4-8 presents information for wastewater sample CW-5. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. SAIC/EPA and CPS alternately collected samples.

Table 4-8. Sample CW-5

Location	Softener Backwash from the A Softener Unit (O-RSS-1-1A) in the Water Treatment Building
Date	July 1, 2009
Start Time	3:08 PM
Finish Time	3:17 PM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	Sample bottles were placed under the Unit A Softener Regeneration spigot to obtain the sample. The wastewater was collected directly into the sample containers.

Figure 4-7 is a photograph of the CW-5 sampling location.

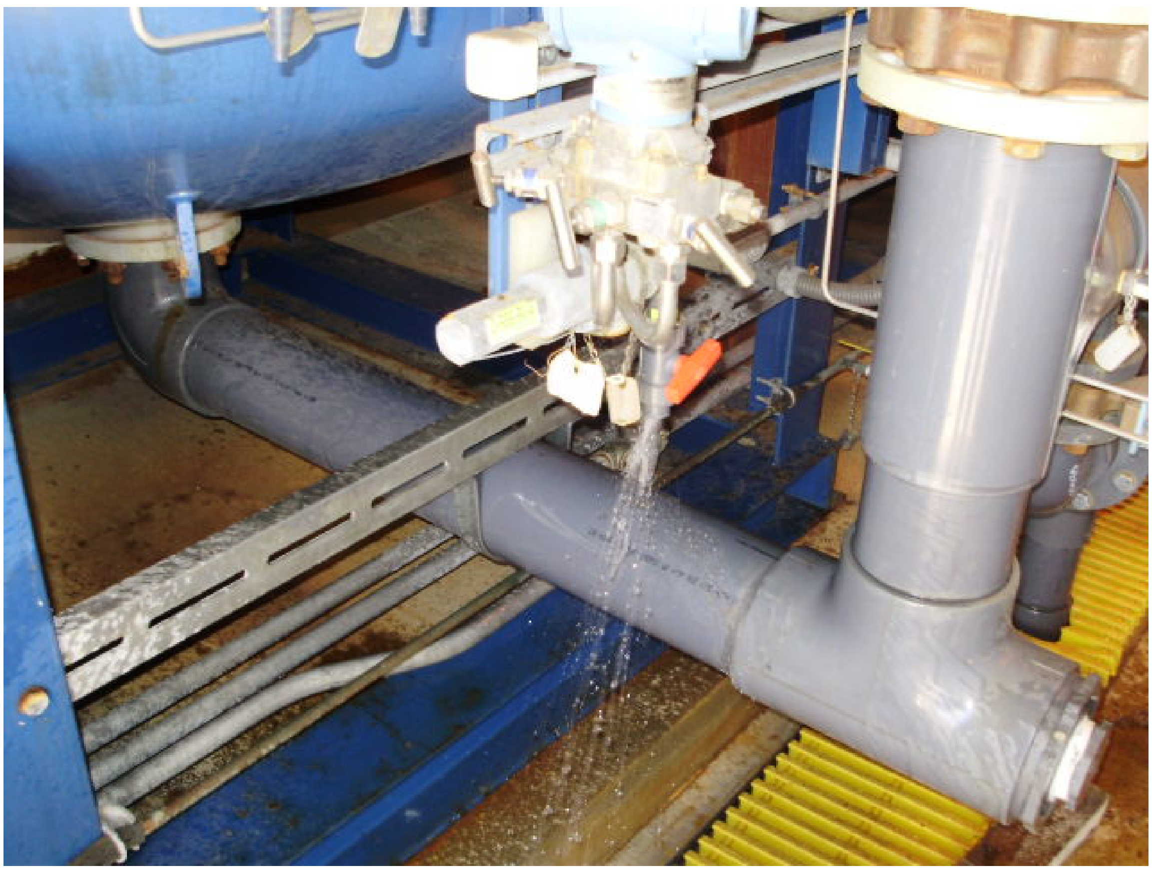


Figure 4-7. Sample CW-5: CPS Softener Backwash from the A Softener Unit (O-RSS-1-1A) in the Water Treatment Building

4.3.7 Sample CW-6

Table 4-9 presents information for wastewater sample CW-6. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. CPS collected independent samples after SAIC/EPA sampling was finished.

Table 4-9. Sample CW-6

Location	CPS West Side of Metals Pond
Date	July 1, 2009
Start Time	3:45 PM
Finish Time	3:52 PM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	A 1-liter Teflon dipper with a long Teflon handle was used to obtain a sample. The wastewater was then poured from the Teflon dipper directly into each sample container.

Figure 4-8 is a photograph of the CW-6 sampling location.

Figure 4-8. Sample CW-6: West Side of Metals Pond

4.3.8 Sample CS-2

Table 4-10 presents information for sediment sample CS-2. SAIC personnel alternately collected samples for EPA/SAIC and CPS according to the approved QAPP.

Table 4-10. Sample CS-2

Location	Northwest Side of Metals Pond
Date	July 1, 2009
Start Time	3:03 PM
Finish Time	3:30 PM
Sample Type	Grab
Matrix	Sediment
Sample Collection Method	A stainless steel trowel was used to scrape approximately the top 1-inch of soil from the sample area (1-foot by 1-foot). This top 1 inch of sediment was discarded. The trowel was used to obtain a sample from the 1-foot by 1-foot sample area down to a depth of about 2 to 4 inches. Sediment was placed into a 13-quart stainless steel bowl and mixed with a stainless steel spoon (until consistency appeared homogenous). The sample did not contain any visible excess water. The sample was then placed into bottles using the stainless steel spoon, compacting the sediment as filling proceeded.

Figure 4-9 is a photograph of the CS-2 sampling location.

Figure 4-9. Sample CS-2: CPS Northwest Side of Metals Pond

4.3.9 Sample CS-3

Table 4-11 presents information for sediment/sludge sample CS-3. SAIC personnel alternately collected samples for EPA/SAIC and CPS according to the approved QAPP.

Table 4-11. Sample CS-3

Location	Northwest Side of Master Sump Retention Basin (Surface Impoundment)
Date	July 1, 2009
Start Time	3:55 PM
Finish Time	4:09 PM
Sample Type	Grab
Matrix	Sediment/Sludge
Sample Collection Method	A 1-liter Teflon dipper with a long Teflon handle was used to scrape the bottom of the impoundment to obtain a sample. After a sufficient amount of sample was collected to approximately fill a 13-quart stainless steel bowl, the sample was mixed with a stainless steel spoon for one minute (until the consistency appeared homogenous). The sample was then scooped and packed into the sample bottles using a stainless steel spoon and trowel. In addition, the sample contained a small amount of excess water, but not enough to be poured off as excess.

Figure 4-10 is a photograph of the CS-3 sampling location.

Figure 4-10. Sample CS-3: CPS Northwest Side of Master Sump Retention Basin (Surface Impoundment)

4.4 Thursday, July 2nd Sampling Activities

The following samples were collected from the Chesterfield facility on Thursday, July 2, 2009.

4.4.1 Sample CW-7

Table 4-12 presents information for wastewater sample CW-7. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. CPS collected independent samples after SAIC/EPA sampling was finished.

Table 4-12. Sample CW-7

Location	Bearing Cooling Unit #3 Blowdown in the Plant Building
Date	July 2, 2009
Start Time	9:30 AM
Finish Time	9:36 AM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	Sample bottles were placed under the discharge pipe for the Bearing Cooling Unit #3 Blowdown to obtain the sample. The wastewater was collected directly into the sample containers.

Figure 4-11 is a photograph of the CW-7 sampling location.

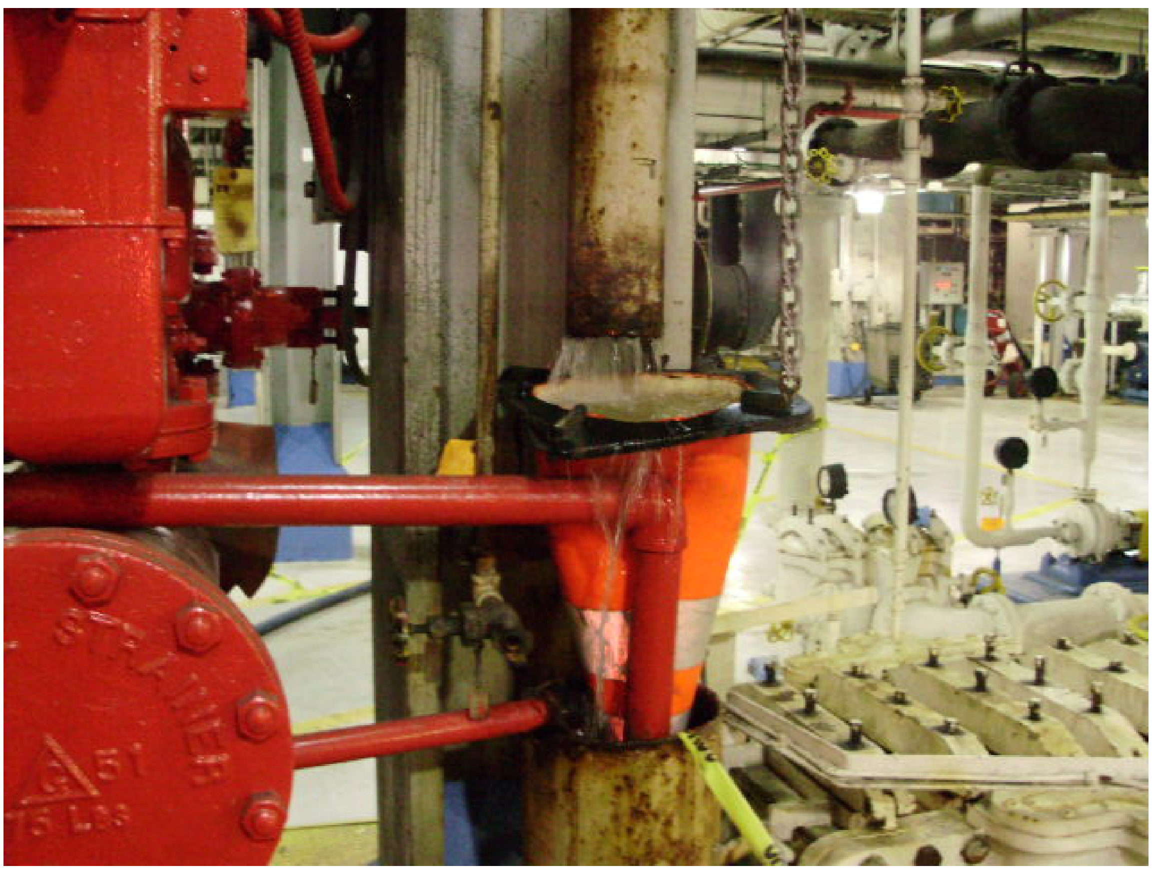


Figure 4-11. Sample CW-7: CPS Bearing Cooling Unit #3 Blowdown in the Plant Building

4.4.2 Sample CW-8

Table 4-13 presents information for wastewater sample CW-8. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. CPS collected independent samples after SAIC/EPA sampling was finished.

Table 4-13. Sample CW-8

Location	#4 Boiler Blowdown in the Plant Building
Date	July 2, 2009
Start Time	9:42 AM
Finish Time	9:48 AM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	Sample bottles were placed under the discharge spigot for the #4 Boiler Blowdown to obtain the sample. The wastewater was collected directly into the sample containers.

Figure 4-12 is a photograph of the CW-8 sampling location.

Figure 4-12. Sample CW-8: CPS #4 Boiler Blowdown in the Plant Building

4.4.3 Sample CW-9

Table 4-14 presents information for wastewater sample CW-9. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. CPS collected independent samples after SAIC/EPA sampling was finished.

Table 4-14. Sample CW-9

Location	#6B Boiler Blowdown in the Plant Building
Date	July 2, 2009
Start Time	9:55 AM
Finish Time	10:01 AM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	Sample bottles were placed under the discharge spigot for the #6B Boiler Blowdown to obtain the sample. The wastewater was collected directly into the sample containers.

Figure 4-13 is a photograph of the CW-9 sampling location.

Figure 4-13. Sample CW-9: CPS #6B Boiler Blowdown in the Plant Building

4.4.4 Sample CW-10

Table 4-15 presents information for wastewater sample CW-10. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. CPS collected independent samples after SAIC/EPA sampling was finished.

Table 4-15. Sample CW-10

Location	Master Sump
Date	July 2, 2009
Start Time	11:01 AM
Finish Time	11:07 AM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	A 2-gallon stainless steel bucket tied to a rope was lowered into the master sump to obtain a sample. Wastewater entering the sump from a drainage pipe collected in the bucket. The bucket was then raised out of the sump, and wastewater from the bucket was poured via a stainless steel funnel directly into each sample container.

Figure 4-14 is a photograph of the CW-10 sampling location.

Figure 4-14. Sample CW-10: CPS Master Sump. The duplicate sample (CW-11) along with the trip blanks (CW-11-V) were also collected at this location.

4.4.5 Sample CW-11

Table 4-16 presents information for wastewater sample CW-11. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. CPS collected independent samples after SAIC/EPA sampling was finished. SAIC also collected two trip blanks according to the QAPP; these samples were analyzed for volatiles. These two containers were labeled as samples CW-11V and were filled at the Master Sump using deionized water obtained from Microbac Laboratories, Inc.

Table 4-16. Sample CW-11

Location	Master Sump – Field Duplicate
Date	July 2, 2009
Start Time	11:12 AM
Finish Time	11:24 AM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	A 2-gallon stainless steel bucket tied to a rope was lowered into the master sump to obtain a sample. Wastewater entering the sump from a drainage pipe collected in the bucket. The bucket was then raised out of the sump, and wastewater from the bucket was poured via a stainless steel funnel directly into each sample container.

Figure 4-15 is a photograph of the CW-11 sampling location.

Figure 4-15. Sample CW-11: CPS Master Sump (Close-up of sampling location in Figure 4-14). The duplicate sample (CW-11) along with the trip blanks (CW-11-V) were collected at this location.

4.4.6 Sample CW-12

Table 4-17 presents information for wastewater sample CW-12. SAIC personnel collected samples for EPA/SAIC according to the approved QAPP. CPS collected independent samples after SAIC/EPA sampling was finished.

Table 4-17. Sample CW-12

Location	Cooling Tower
Date	July 2, 2009
Start Time	11:44 AM
Finish Time	11:50 AM
Sample Type	Grab
Matrix	Wastewater
Sample Collection Method	A 1-liter Teflon dipper with a long Teflon handle was used to obtain a sample. The wastewater was then poured from the Teflon dipper via a stainless steel funnel directly into each sample container.

Figure 4-16 is a photograph of the CW-12 sampling location.

Figure 4-16. Sample CW-12: CPS Cooling Tower

4.4 Sample Packaging and Shipment

After initial sample collection, all of the sample containers were immediately placed into a cooler containing bagged ice until they could be packaged for shipment.

Sample packaging for shipment consisted of lining a cooler with a clean plastic trash bag and placing two 2-gallon Ziploc bags, approximately one-half full of ice on the bottom of the cooler inside the trash bag. A layer of large sample bottles were placed on top of the ice. Another layer of ice (in Ziploc bags) was added on top. The remaining sample containers were placed on top of the previous layer of ice. Finally, a third layer of ice (in Ziploc bags) was added on top, and the trash bag was sealed and secured by tying a knot and/or taping the bag shut. The chain of custody was properly completed for each sample location/cooler, inserted into a 2-gallon Ziploc bag which was sealed, and placed on top of the sealed trash bag inside the cooler. Copies of the chain of custody forms are located in Appendix C. The cooler was then taped shut with strapping tape. The custody seals were signed, dated, and placed on each cooler covered with a small piece of tape. Finally, the shipping air bill was properly completed and taped onto each cooler. This procedure completed the shipment process for each sample and its respective cooler.

During the entire sampling process (collection, packaging, etc.), SAIC followed the proper procedures outlined in the approved QAPP.

5.0 <u>Analytical Results</u>

Samples (twelve aqueous and three solid) were collected at the CPS facility on July 1st and July 2nd, 2009. Samples were analyzed for volatile organic compounds (VOCs) by method SW8260, semivolatile organic compounds (SVOCs) by method SW8270, pesticides by SW8081, herbicides by SW 8151, polychlorinated biphenyls (PCBs) by SW 8082, metals by methods SW6010 and mercury by and SW7470 for aqueous samples and SW7471 for solids. TCLP extracts were prepared as per SW846 1311 followed by analysis by the above methods, as appropriate. TCLP VOCs were evaluated based on the results of the total analyses adjusted for the dilution of the extraction fluid and results were all non-detect. Therefore, a separate ZHE extraction was not required (as per SW846 1311, 1.2).

The complete tables of the analytical lab results are located in Appendix D. The raw lab data reports from the laboratory can be found in Appendix E in an electronic format. Sections 5.1 and 5.2 below present analytical results when parameters were identified over their method detection limit.

5.1 TCLP Analytical Results

Table 5-1 presents a summary for selected TCLP analyses for aqueous and sediment (solid) samples collected at the CPS facility for only those parameters detected over their method detection limits. None of the sample results exceeds the corresponding TCLP regulatory limit. The only metals found above detection limits were barium and chromium which have TCLP limits of 100 mg/l and 5.0 mg/l, respectively. The only VOC above detection limits was chloroform with a TCLP limit of 6 mg/l. All other parameters not summarized in Table 5-1, which were analyzed, had results below their detection limits.

Table 5-1. Selected TCLP Analytical Results: CPS Aqueous and Sediment (Solid) Samples

Field Sample ID	TCLP Regulatory Criteria	CW-1	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-8	CW-9	CW-10	CW-11	CV-11-V	CW-12	CS-1	CS-2	CS-3
Matrix		Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Solid	Solid	Solid
Sample Date		7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09
Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
TCLP Metals																	
Barium	100	ND	ND	0.37	ND	ND	0.31	ND	ND	ND	ND	ND	*NA*	ND	2.9	0.58	1.2
Chromium	5	ND	ND	0.012	ND	ND	ND	ND	ND	ND	ND	ND	*NA*	ND	ND	ND	ND
TCLP VOCs																	
Chloroform	6	0.0052	ND	0.0084	ND	ND	ND	ND	ND	ND	ND	ND	*NA*	ND	ND	ND	ND

*ND - Not Detected

5.2 Total Analytical Results

Table 5-2 presents a summary of results for selected analytical results for aqueous and sediment (solid) samples collected at the CPS facility for only those parameters detected over their method detection limits. All other parameters not summarized in Table 5-2, which were analyzed, had results below their detection limits.

Table 5-2. Summary of Selected Analytical Results: CPS Aqueous and Sediment (Solid) Samples

	Aqueous Samples													Solid Samples		
Field Sample ID	CW-1	CW-2	CW-3	CW-4	CW-5	CW-6	CW-7	CW-8	CW-9	CW-10	CW-11	CV-11-V	CW-12	CS-1	CS-2	CS-3
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Water	Solid	Solid	Solid
Sample Date	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/1/09	7/2/09	7/2/09	7/2/09	7/2/09	7/2/09	7/2/09	7/2/09	7/1/09	7/1/09	7/1/09
Units	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/kg	ug/kg	ug/kg
VOCs - Total																
Butylbenzene	30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	100	41	170	89	61	ND	50	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	ND	31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Propylbenzene	75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SVOCs - Total																
Bis(2-Ethylhexyl)phthalate	ND	12	12	ND	13	11	ND	12	ND	14	14	*NA*	16	ND	ND	ND
Metals - Total	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/kg	mg/kg	mg/kg
Aluminum	0.48	4.2	380	0.61	4.5	ND	0.29	0.080	ND	2.2	1.5	*NA*	0.027	14000	30000	11000
Arsenic	ND	ND	ND	ND	ND	0.0059	ND	ND	ND	ND	ND	*NA*	0.022	78	270	18
Barium	ND	0.035	0.87	0.0059	0.020	0.32	0.025	ND	ND	0.049	0.039	*NA*	0.054	580	840	300
Beryllium	0.0016	ND	0.0025	ND	ND	ND	ND	ND	ND	ND	ND	*NA*	ND	3.7	9.2	2.8
Cadmium	0.0014	ND	0.0071	0.0013	0.00052	0.011	ND	ND	ND	0.00060	ND	*NA*	0.0012	1.1	1.7	1.0
Calcium	0.46	18	82	2.4	6.5	1600	15	0.078	0.083	13	13	*NA*	22	3100	61000	4100
Chromium	ND	0.0045	0.019	ND	ND	ND	ND	0.0022	ND	0.0024	ND	*NA*	0.0013	21	57	18
Cobalt	ND	ND	0.023	ND	ND	ND	ND	ND	ND	ND	ND	*NA*	ND	10	24	7.0
Copper	0.0018	0.0027	0.22	0.0030	0.0040	ND	0.0011	0.0079	0.082	0.027	0.016	*NA*	0.036	71	150	95
Iron	0.026	0.86	56	0.11	1.5	ND	0.048	0.022	0.0053	2.6	0.62	*NA*	0.055	22000	25000	16000
Lead	ND	ND	0.068	ND	ND	0.049	ND	ND	ND	ND	ND	*NA*	ND	19	86	ND
Magnesium	0.11	3.9	15	0.41	1.6	7.5	3.3	ND	ND	3.0	2.8	*NA*	7.6	1100	2300	1100
Manganese	ND	0.11	11	0.028	0.15	ND	ND	ND	ND	0.048	0.046	*NA*	0.042	120	120	140
Nickel	ND	ND	0.025	ND	ND	ND	ND	ND	ND	ND	ND	*NA*	ND	21	48	15
Potassium	0.12	2.0	4.7	0.29	1.2	68	2.0	ND	ND	1.9	1.7	*NA*	8.5	2200	4100	1600
Selenium	ND	ND	ND	ND	ND	0.052	ND	ND	ND	ND	ND	*NA*	ND	15	130	ND
Sodium	190	13	14	170	33	280	15	2.1	ND	15	17	*NA*	85	470	1000	ND
Thallium	ND	ND	ND	ND	ND	0.048	ND	ND	ND	ND	ND	*NA*	ND	ND	ND	ND
Vanadium	0.0080	0.0057	0.14	0.0055	0.0026	ND	0.0010	0.0016	0.00061	0.012	0.0068	*NA*	0.00070	71	170	55
Zinc	ND	0.010	0.52	ND	0.015	ND	ND	0.0057	0.0056	0.020	0.012	*NA*	0.045	51	120	78
Mercury	ND	ND	0.00029	ND	ND	ND	ND	ND	ND	0.00022	ND	*NA*	ND	0.15	0.11	0.22
pH	8.9	8.6	8.6	8.9	8.7	9.1	9.1	9.6	9.2	8.2	8.2	*NA*	8.1	8.0	9.9	8.7
% Solids	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	60.66	59.74	33.32
Ignitability	>200 °F	>200 °F	>200 °F	>200 °F	>200 °F	>200 °F	>200 °F	>200 °F	>200 °F	>200 °F	>200 °F	*NA*	>200 °F	ND	ND	ND
Reactive Cyanide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	*NA*	ND	ND	ND	ND
Reactive Sulfide	ND	54	ND	ND	ND	ND	14	42	ND	ND	ND	*NA*	56	58	14	ND

*ND - Not Detected

5.3 Reliability of Analytical Results

Results were reviewed to determine the reliability of the data and evaluate any limitations on their use in support of project objectives. The data quality indicators were assessed including precision and accuracy. Sample quality control included holding times, surrogate recovery, and internal standard results. Batch QC analyses included tuning and calibration, method blanks, laboratory control samples, and matrix spikes. The results for each parameter are discussed below.

5.3.1 Sample Receipt

Samples were received at the lab without any noted exceptions.

5.3.2 VOC Analytical Review

All samples for total VOCs were analyzed within method specified holding times. Soils were extracted into methanol and analyzed as mid-level protocols with elevated detection limits (approximately 500 ug/kg). Prior to the analysis of any samples, the tune performance compound BFB was analyzed and an initial calibration was performed. Outlier compounds were evaluated for linearity via linear or non-linear regression. Every 12 hours that samples were analyzed, the instrument tune and calibration was verified. Continuing calibration standards were analyzed as required and generally met criteria.

Surrogate and internal standards were added to the samples prior to analysis. Area counts and retention times for the internal standards met criteria, and all surrogate recoveries fell within laboratory control limits with the exception of CW-2, which had one surrogate (1,2-dichloroethane-d4) with recovery slightly below the lower control limit. Total VOC and TCLP results for this sample were qualified as estimated (J).

Method blanks were generally free of target compound contamination with two exceptions. The blank analyzed on July 7, 2009 had a concentration of methylene chloride of 3.4 ug/l. However, none of the samples analyzed against this blank had methylene chloride at reportable concentrations. A blank analyzed on July 8, 2009 had several compounds detected at low concentrations (methylene chloride; 1,2,3-trichlorobenzene; 1,2-dibromo-3-chloropropane). However, none of these compounds were detected in any of the samples associated with this batch. Therefore, there was no impact on data quality.

Accuracy was assessed through the analysis of laboratory control samples (LCSs) which were analyzed with each analytical batch and matrix spikes or matrix spike duplicates (MS/MSD). A few compounds (trichlorofluoromethane and carbon tetrachloride) had recoveries that exceeded the upper control limits. These compounds were not detected in the samples, and since recovery values were biased high, there was no impact on overall data quality. However, while the lab does not have established control limits for all compounds, acrolein (25 % recovery) and 2-chloroethylvinyl ether (44 % recovery) had recovery values that were sufficiently low to warrant considering the detection limits reported to be estimated values (UJ) that may be impacted by the apparent low bias in spike recovery. It should be noted that the LCS/D recoveries for acrolein were 25-29%, confirming the potential low bias, and 2-chloroethylvinyl ether recovery in the LCS/D was 97-101%, indicating potential matrix effect.

A field duplicate pair was collected and analyzed (CW-10 and CW-11); VOC results were all non-detect for both samples.

5.3.3 SVOC Analytical Review

All extraction and analysis holding times were met for total aqueous and solid sample SVOCs. The specified holding time for TCLP extracts is 7 days from TCLP leachate extraction to the preparative extraction of the leachate for SVOCs. Samples CS-1, CS-2 and CS-3 met this criteria. However, the remaining TCLP leachates (CW-1, CW-2, CW-3, CW-4, CW-5, CW-6, CW-7, CW-8, CW-9, CW-10, CW-11, CW-12) were extracted for SVOCS 2 days beyond this holding time. Thus, all TCLP SVOC data for all CW samples were qualified as estimated.

Prior to the analysis of any samples, the tune performance compound DFTPP was analyzed and an initial calibration was performed. Outlier calibration compounds were evaluated for linearity via linear or non-linear regression. Every 12 hours that samples were analyzed, the instrument tune and calibration was verified. All method blanks were free of target compound contamination.

Surrogates were added to samples prior to extraction, and internal standards were added to the extracts prior to analysis. Internal standard area counts and retention time criteria were met for all samples. Surrogate recoveries fell within laboratory control limits with the exception of CW-3 which had one base-neutral surrogate (terphenyl-d14) having a recovery value below the lower control limit. Therefore, SVOC data for this sample are considered estimated.

Laboratory control samples and matrix spike duplicates were analyzed with each batch of samples to assess accuracy and precision. When volume was limited, an MS and LCS/D were analyzed. A few compound recoveries (4-nitrophenol, pentachlorophenol) exceeded control limits; these batch QC were spikes performed on non-project samples, and therefore, no qualifications were needed or appropriate.

A field duplicate pair was collected and analyzed (CW-10 and CW-11); SVOC results indicated bis(2-ethylhexyl)phthalate at 14 ug/l for both samples. All other compounds were non-detect for both samples.

5.3.4 Pesticide Analytical Review

Samples for TCLP pesticides were extracted 1 day outside of the method specified holding time for soil samples CS-1, CS-2, CS-3. All CW samples were extracted 7 days outside of the holding time. Therefore, all TCLP pesticide data are considered estimated. Prior to sample analysis, calibrations were performed per the method requirements. Several compounds exceeded the continuing calibration criteria in one of the CCV standards; endrin, endrin aldehyde, methoxychlor, and p,p'-DDT had elevated response factors in the CCV compared to the ICV. Since these compounds were all ND in the TCLP extracts as well as the one sample (CW-12) analyzed for total pesticides and since the CCV results were biased high, there was no impact on data quality.

Surrogates were added to samples prior to extraction. One surrogate in the TCLP extracts analyzed for CW-1 and CW-2 were slightly below control limits. Results for these TCLP samples were non-detect, and therefore, all data were qualified as J.

Method blanks were free of contamination above the reporting limits. Laboratory control samples and matrix spike duplicates were analyzed with each batch of samples. A few compound recoveries exceeded control limits in LCS analyses. However, these compounds had compliant recoveries in the MS/MSD, the compounds were not detected in the samples, and recovery values were generally within 10% of the control limits. Therefore, there was no impact on overall data quality.

5.3.5 Herbicide Analytical Review

Samples for TCLP herbicides were extracted and analyzed 1 day outside holding time for CW-1, CW-2, CW-3, CW-5, and CW-6. Therefore, the TCLP herbicide data were qualified as estimated. Sample CW-12 was extracted for total herbicides 1 day outside holding time; data for total herbicides for this sample are qualified as estimated. TCLP herbicides were requested for sample CW-4. However, the sample was extracted and analyzed instead for total herbicides, and the extraction of the sample was 18 days outside of the holding time. Based on this exceedance, data for this sample are qualified as unusable (R) for this project. Surrogates were added to samples prior to extraction and were generally within control limits. Herbicides were not detected in any TCLP leachates or the total analysis of CW-12.

Calibrations were performed in accordance with method requirements. Method blanks were free of contamination. Laboratory control samples and matrix spike duplicates were analyzed with each batch of samples.

5.3.6 PCB Analytical Review

Samples for PCB analysis were extracted and analyzed within hold time. Prior to sample analysis, calibrations were performed per the method requirements.

Surrogates were added to samples prior to extraction. One surrogate, CW-3, had recovery values for both surrogates below 10%. Although matrix affect is suspected, the sample was not re-extracted. Therefore, PCB data for this sample were qualified as unusable (R). Sample CW-9 had one surrogate compound with recoveries below the control limits; thus, data for this sample were qualified as estimated.

Method blanks were free of contamination above the reporting limits. Laboratory control samples and matrix spike duplicates were analyzed with each batch of samples. The soil LCS analyses indicated low (43-64%) recovery of Aroclor 1016/1260 (the standard spiking solution); however, the PCBs had compliant recoveries in the soil MS/MSD which was performed on CS-3. Therefore, there was no impact on overall data quality.

A field duplicate pair was collected and analyzed (CW-10 and CW-11); PCB results were non-detect for both samples.

5.3.7 Metals Analytical Review

Samples were analyzed for Total Target Analyte List (TAL) metals and TCLP metals. All samples were analyzed within method specified holding times.

Calibration was performed as per method requirements and included initial calibration verification standards, continuing calibration verification standards, and initial and continuing calibration blanks. The soil sample analysis had an ICV result for antimony of 120%; therefore soil sample data (or detection limits) were qualified as estimated. Calibration blanks generally met validation criteria with several exceptions. A blank associated with the TCLP analyses contained low level concentrations above the reporting limit of barium (0.085 mg/l), cadmium (0.014 mg/l), and silver (.016 mg/l). Cadmium and silver were not detected in any samples;

barium was reported at less than 10 times the blank concentrations for CW-3, CW-6, and CS-2. Therefore, the barium results for these samples were qualified as estimated due to the blank contamination. Blank results that exceeded criteria for several other metals, and that were associated with total aqueous and total solid analyses, did not require qualification since sample results had concentrations greater than 10 times the blank values.

Matrix spike duplicates (MS/MSDs), laboratory control samples, and duplicate samples were analyzed with each batch of samples. The aqueous matrix spike recovery for calcium exceeded the control limits, and positive values were qualified as estimated. Some outlier spike recoveries were due to the high native sample concentration relative to the spiking level which precluded an assessment of accuracy for these metals (aluminum, calcium). Duplicate samples met criteria for precision with Relative Percent Difference (RPD) values within control limits for samples with results above the Reporting Detection Limit (RDL).

A field duplicate pair was collected and analyzed (CW-10 and CW-11). Eight metals were detected at concentration at least five times the reporting limit, and five of these (barium, magnesium, manganese, potassium, sodium) had RPD values less than 30%. The remaining elements (aluminum, copper, iron) had RPD values of 38-123%; the biggest difference was for iron. It is assumed these elements may have been impacted by the total suspended solids of the samples; the primary sample was collected first and the duplicate was collected approximately 15 minutes later. TCLP metals were ND for both samples.

5.3.8 Wet Chemistry Review

Ignitability: All aqueous sample values were >200^{o}F. Soil samples were reported as ND. A duplicate run on sample CW-5 indicated the same results.

Reactive Cyanide: All samples were run outside of the holding time; therefore, all results are qualified as estimated. The LCS and MS/MSD were within laboratory established control limits, but it should be noted that these limits indicate the analysis is biased low. (LCS control limits are 5-15% recovery and MS control limits are 3-20% recovery.)

Reactive Sulfide: All samples were run outside of the holding time; therefore, all results are qualified as estimated. The LCS was run in triplicate and all three recovery values were below control limits, indicating potential low bias in the analysis. One of the three matrix spikes analyzed had no recovery; the other two had recovery slightly above the lower control limit of 20%.

pH: pH for aqueous samples was determined outside of the holding time; therefore all results are qualified as estimated.

5.4 Summary of Data Usability and Limitations

Based on the review of analytical data, as detailed above, some sample results have been identified as having QC non-conformance such that the data cannot be used without qualification. The results for these samples, qualified as estimated with a Data Validation Qualifier (DVQ) of J or UJ, have been so indicated in the attached CPS Data Review Tables. It should be noted that data for CW-4 TCLP herbicides and CW-3 total PCBs were qualified as unusable for use in the evaluation of project objectives.

All other sample data can be used without additional limitation or qualification for the evaluation of project objectives.

6.0 Regulatory Review

6.1 RCRA

Mr. Matlin, EPA Region 3, took the lead for the RCRA inspection and is preparing a separate report. Ms. Steed and Mr. Rawe of SAIC provided input in the field to Mr. Matlin based on observations during the inspection.

6.2 EPCRA

6.2.1 Tier I and II

Subpart B Community Right-To-Know reporting requirements apply to any facility that is required to prepare or have available a material safety data sheet (MSDS) for a hazardous chemical under the Occupational Safety and Health Act of 1970 and regulations promulgated under that Act. The minimum threshold for reporting for extremely hazardous substances is 500 pounds (or 227 kilograms, which is approximately 55 gallons) or the Threshold Planning Quantity (TPQ), whichever is lower. The minimum threshold for reporting for all other hazardous chemicals is 10,000 pounds (or 4,540 kilograms) (40 CFR §370.20).

40 CFR §370.25 requires the owner or operator of a facility subject to Subpart B to submit an inventory form to the State Emergency Response Commission (SERC), the Local Emergency Planning Committee (LEPC), and the fire department with jurisdiction over the facility. The inventory form containing Tier I information on hazardous chemicals present at the facility during the preceding calendar year above the threshold levels stated above must be submitted on or before March 1st of each year. The facility may submit a Tier II form in lieu of the Tier I information.

SAIC performed the following reviews for the Tier II forms for calendar years 2007 and 2008 for the Dominion Chesterfield Power Station. As part of the review, the following activities were completed:

1) Confirmed that the reports had been submitted by March 1, 2009 (for calendar year 2008) and March 1, 2008 (for calendar year 2007) to the SERC, LEPC and local emergency response agency.

2) Spot checked quantities of chemical stored in various locations throughout the facility to identify any chemicals currently stored in excess of the respective reportable quantity (RQ), recognizing that current quantities are not reportable until next March. The intent was to identify chemicals currently in excess of RQs and attempt to determine if RQs were exceeded in 2007 and 2008. Typically the inspector would a) compare inventory documents for previous years to the Tier II forms to confirm all chemicals above RQ were reported and b) compare current inventory documents to current physical inventories to confirm the accuracy of the inventory system. However, Dominion could not produce current or past document inventories for chemicals stored. The Environmental Manager stated that chemical inventories are not maintained; chemicals are ordered on an as needed basis. Additionally, he stated that chemicals stored in tanks are reported at maximum tank capacity or working volume. Limited time prevented a comprehensive review of purchasing and usage records (it is not clear that usage is documented) in lieu of chemical

inventory records. Therefore, a comparison of current physical inventories to current document inventories and a cross-check of previous calendar year document inventories to Tier II reports could not be performed. The SAIC inspector did not observe any chemicals currently exceeding RQ values that had not been reported in previous Tier II reports.

3) To the extent that time constraints and the availability of Dominion personnel and documentation permitted, storage capacity of tanks was confirmed and these were compared to Tier II reported quantities. No discrepancies were noted.

6.2.2 Toxics Release Inventory (TRI)

The Environmental Manager at Dominion Power confirms that the CPS is a covered facility as defined in 40 CFR §372.22 and is required to implement Toxic Chemical Release Reporting, commonly known as TRI, because it has more than 10 employees and is in a covered Standard Industrial Code (SIC).

40 CFR §372.25(b) requires TRI reporting by facilities that manufacture or process 25,000 pounds of a chemical for the year and "otherwise use" at a facility 10,000 pounds of the chemical for the applicable calendar year. Manufacture means to produce, prepare, import, or compound a toxic chemical. Manufacture also applies to a toxic chemical that is produced coincidentally during the manufacture, processing, use, or disposal of another chemical or mixture of chemicals, including a toxic chemical that is separated from that other chemical or mixture of chemicals as a byproduct, and a toxic chemical that remains in that other chemical or mixture of chemicals as an impurity. Otherwise use means any use of a toxic chemical, including a toxic chemical contained in a mixture or other trade name product or waste, that is not covered by the terms "manufacture" or "process." Otherwise use of a toxic chemical does not include disposal, stabilization (without subsequent distribution in commerce), or treatment for destruction. Process means the preparation of a toxic chemical, after its manufacture, for distribution in commerce:

SAIC reviewed the TRI calculation spreadsheets provided by Dominion Power for 2006, 2007, and 2008 and spot checked the accuracy of calculations. This limited review indicates that TRI data are properly calculated and chemicals are properly reported.

6.3 CWA

The plant utilizes water for generation of steam to power turbines required to produce electricity and in the cooling tower designed to cool hot water before it is discharged back to the river. Figure 6-1 presents a schematic of water flow at CPS. The water is drawn from the James River and passes through coarse screens. After passing through the screens, the water goes through a bleaching and poly-aluminum chloride process. From here, the water flows through the lamella separator and then a sand filter. Next, the water continues through the R/O and into a dual-bed demineralizer. Once through the demineralizer, the water ends up in a neutralizer tank. After neutralization, the water flows to the master sump and then to the ash pond. The finished water from the ash pond flows to the Distant Water Tank, where the water remains stored. The waste stream water coming from the lamella separator and the sand filter eventually flows to the master sump and the ash pond as blowdown and backwash. Table 6-2 describes the discharge points for each permitted outfall.

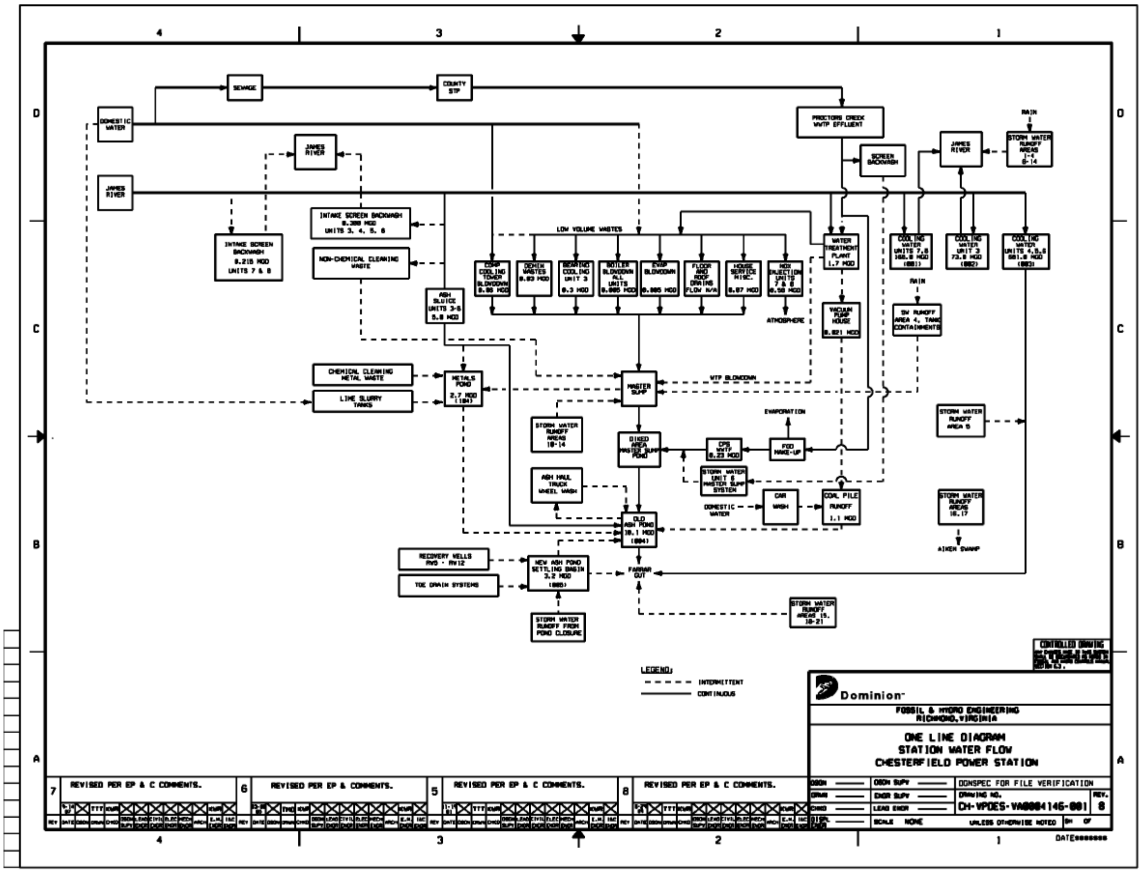


Figure 6-1. Schematic Water Flow Diagram

CPS has 12 NPDES permitted outfalls shown in Table 6-2.

Table 6-2. NPDES Permitted Outfalls

Outfall	Description
001	Thermal discharge of once through cooling water for Units 7 and 8
002	Thermal discharge of once through cooling water for Unit 3
003	Thermal discharge of once through cooling water for Units 4, 5, and 6
004	Old Ash Pond Effluent
005	New Ash Pond Effluent
006	River water intake screen backwash discharge for Unit 7
007	River water intake screen backwash discharge for Unit 8
008	River water intake screen backwash discharge for Units 3 and 4
009	River water intake screen backwash discharge for Unit 4
010	River water intake screen backwash discharge for Unit 5
011	River water intake screen backwash discharge for Unit 6
104	Effluent from Metal Cleaning Waste Treatment Basin

6.3.1 Spill Prevention, Control, and Countermeasure (SPCC) Plan and Facility Response Plan (FRP) Review

40 CFR §112, the Oil Pollution Prevention regulation, which is promulgated under the authority of §311 of the CWA, sets forth requirements for prevention of, preparedness for, and response to oil discharges at specific non-transportation-related facilities. To prevent oil from reaching navigable waters and adjoining shorelines and to contain discharges of oil, this regulation requires these facilities to develop and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans and establish procedures, methods, and equipment requirements. Any facility storing over 1,320 gallons of petroleum, oil, or lubricant (POL) in containers of 55 gallons or greater must prepare and implement an SPCC Plan. CPS stores over 1,320 gallons of POL and is subject to 40 CFR §112 requirements.

Additionally, Subpart D of 40 CFR § 112 requires that an owner or operator of non-transportation-related onshore facilities that, because of location, could reasonably be expected to cause substantial harm to the environment by discharging oil into or on the navigable waters or adjoining shoreline, to develop a facility response plan (FRP). Facilities required to prepare and implement an FRP include facilities that maintain total oil storage capacity greater than or equal to 1 million gallons and the facility is located at a distance such that a discharge from the facility could cause injury to fish and wildlife and a sensitive environment. CPS maintains a total oil storage capacity greater than 1 million gallons of POL and is located at a distance such that a discharge from the facility could cause injury to fish and wildlife and a sensitive environment.

SAIC performed the reviews described below for the Dominion CPS.

1) SAIC confirmed that both an SPCC Plan and an FRP had been prepared for the facility, and completed copies were maintained on site. The SPCC, FRP, and the Oil Discharge Contingency Plan (ODCP) are combined into one plan. The entire Plan was last revised December 2008.

2) SAIC verified that the SPCC Plan is reviewed and evaluated at least once every 5 years and certified by a registered professional engineer, and has management approval. The SPCC Plan includes a physical layout of the facility, a facility drainage diagram, and other required information. The only discrepancy noted is that the SPCC Plan lists two different individuals as

accountable for discharge prevention. Page C-10 lists one name, and page C-16 lists another name.

3) SAIC spot checked training records and reviewed a course description of the spill training given to all oil-handling personnel at the facility. Documentation could not be provided to demonstrate that oil-handling personnel and contractors working on site for more than six months are briefed annually on spill prevention and discharge prevention.

4) SAIC reviewed written procedures and spot checked records of inspections and tests relevant to the SPCC Plan. Documentation could not be provided indicating that aboveground storage tanks (ASTs) maintained by contractors and stored on site for more than six months are being inspected monthly.

5) SAIC noted no missing elements in the FRP.

6.3.2 Storm Water Pollution Prevention Plan (SWPPP) and National Pollutant Discharge Elimination System (NPDES) Review

Virginia is an authorized state under the federal permitting program. The Virginia Department of Environmental Quality (VDEQ) administers the federal program as the Virginia Pollutant Discharge Elimination System (VPDES) permit program, which is authorized under the State Water Control Law. The Virginia Pollutant Discharge Elimination System Permit Regulation sets forth the policies and procedures that are followed in the administration of the permit program. As mandated by the Clean Water Act and EPA's Phase 1 (11/16/90) and Phase 2 (12/8/99) storm water regulations, VDEQ issues VPDES permits to dischargers of storm water from "Industrial Activities".

Under the Phase 1 storm water regulations, storm water discharges from "industrial activities" are regulated by VDEQ.

CPS is considered a steam electric power generating facility that discharges storm water associated with industrial activity. Therefore, the facility has a VPDES storm water permit. Furthermore, a Storm Water Pollution Prevention Plan (SWPPP) is required for the facility.

1) SAIC confirmed that a SWPPP had been prepared for the facility, and a completed copy was maintained on site. The entire plan was last updated on November 2008.

2) SAIC verified that the SWPPP identifies the facility’s storm water pollution prevention team. It also describes areas where industrial materials or activities are exposed to storm water and the pollutants that have potential to impact stormwater. Three potential issues were noted:

- `The SWPPP indicates that current Best Management Practices (BMPs) are being utilized, but does not appear to describe the type and location of existing nonstructural and structural BMPs selected for each of the areas where materials are exposed to storm water.

- The SWPPP includes certification of non-storm water discharges, signed and dated on 11/14/07, but potential significant sources of non-storm water discharges at the site are not identified.

- The SWPPP identifies allowable non-storm water discharges and each location where the non-storm water discharge is likely to occur, but does not describe BMPs being used for each source.

3) The most recent annual compliance evaluation was completed on November 18, 2008. The quarterly and monthly inspection reports appeared to be adequate, signed, and up to date.

4) SAIC was not able to thoroughly check the training records relevant to the SWPPP due to time constraints and the availability of the Dominion personnel.

5) SAIC performed a Discharge Monitoring Report check on all of the outfalls included under the facility VPDES permit from January 2007 – June 2009. There were no exceedances or discrepancies noted. SAIC also cross-walked and spot checked the actual lab results and calculations that are entered as the final value on the DMR. Again, no discrepancies were noted.

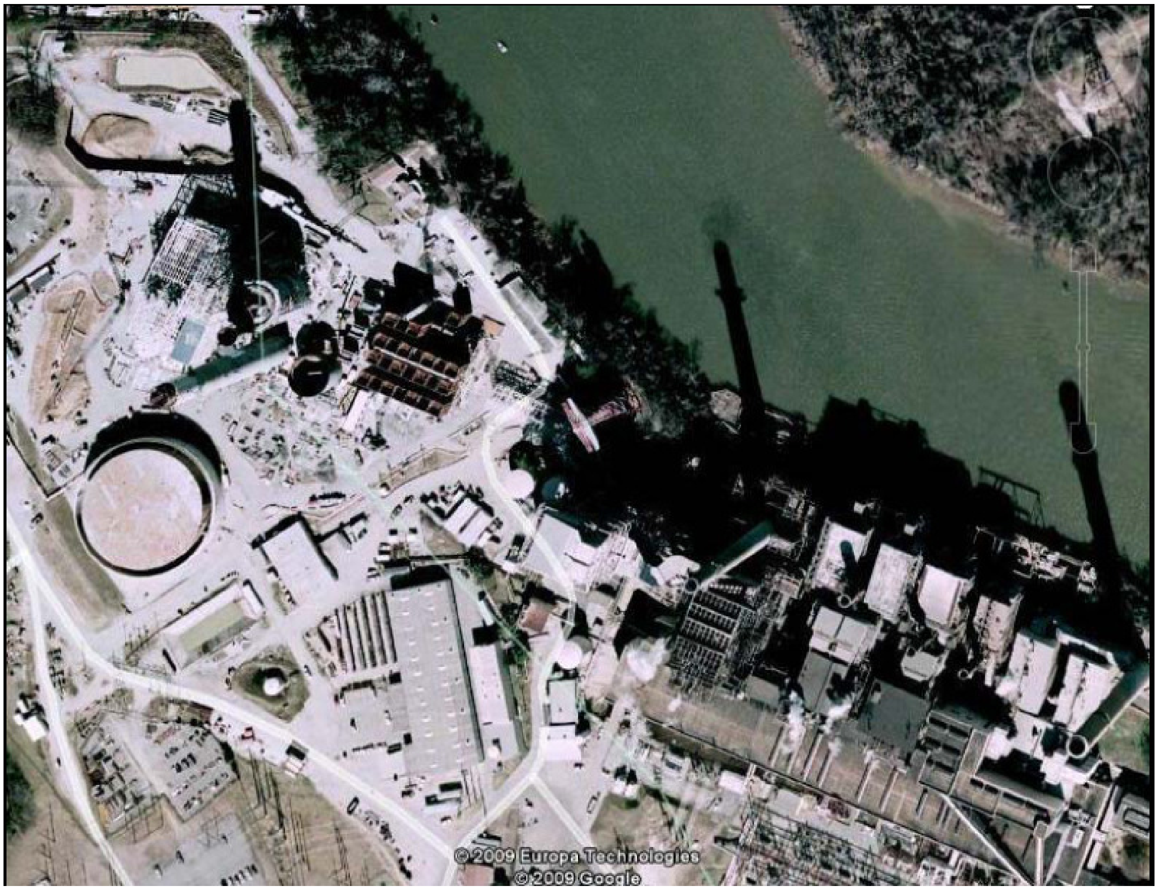
7.0 References

[1]SAIC. 2009. *Quality Assurance Project Plan for Power Plant Waste Management Compliance Investigations*. Science Applications International Corporation. June 2009.

APPENDIX A

GOOGLE EARTH PHOTOS

Chesterfield Power Station Overview



Chesterfield Power Station Central Area

APPENDIX B

PHOTOLOG OF SAMPLING ACTIVITIES

Photo 1. Sample CS-1: CPS Northwest Side of Wet Ash Pond (Surface Impoundment)

Photo 2. Broader view of the CS-1 sample location.

Photo 3. Collection of sample CS-1 from the northwest side of the wet ash pond.

Photo 4. Sample CW-1: CPS Reverse Osmosis (RO) Reject Water in the Water Treatment Building


Photo 5. Sample CW-2: CPS Backwash from Sand Filter Delta in the Water Treatment Building


Photo 6. Broader view of the CW-2 sample location.

Photo 7. Collection of sample CW-2.

Photo 8. Sample CW-3: CPS Lamella Unit (00-WTC-CL-2B) Backwash in the Water Treatment Building.

Photo 9. Collection of sample CW-3.

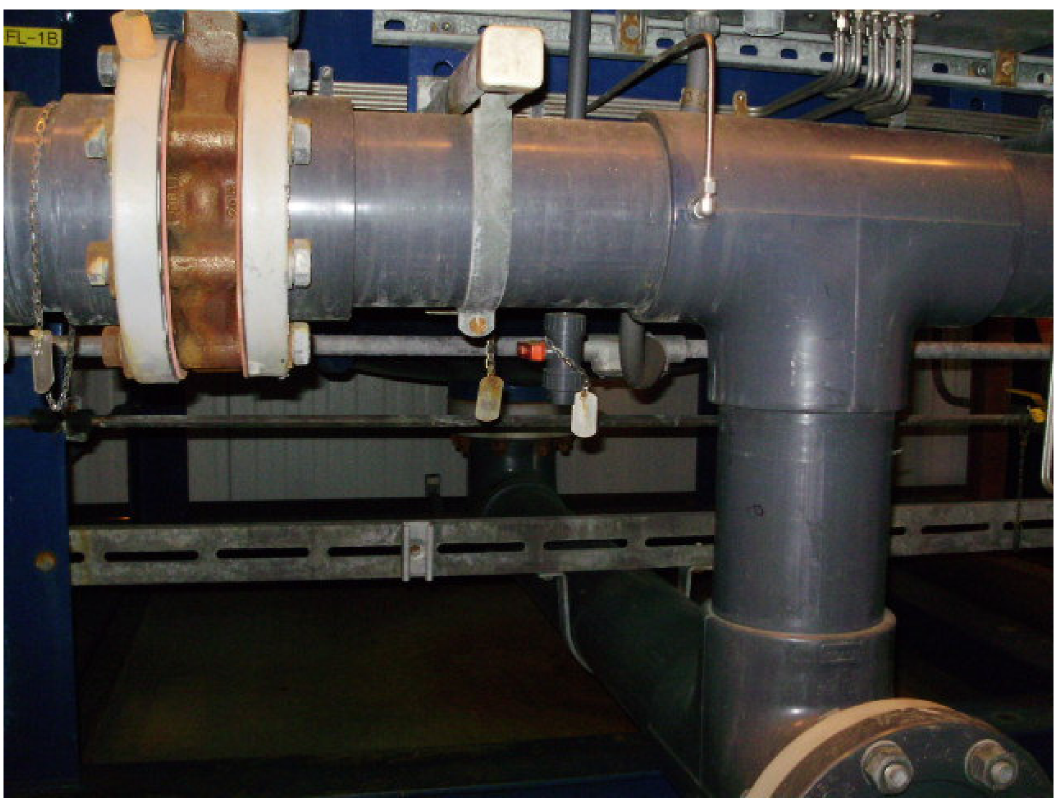


Photo 10. Sample CW-4: CPS Multimedia Backwash from the B Filter Unit (O-RSS-TK-1) in the Water Treatment Building.

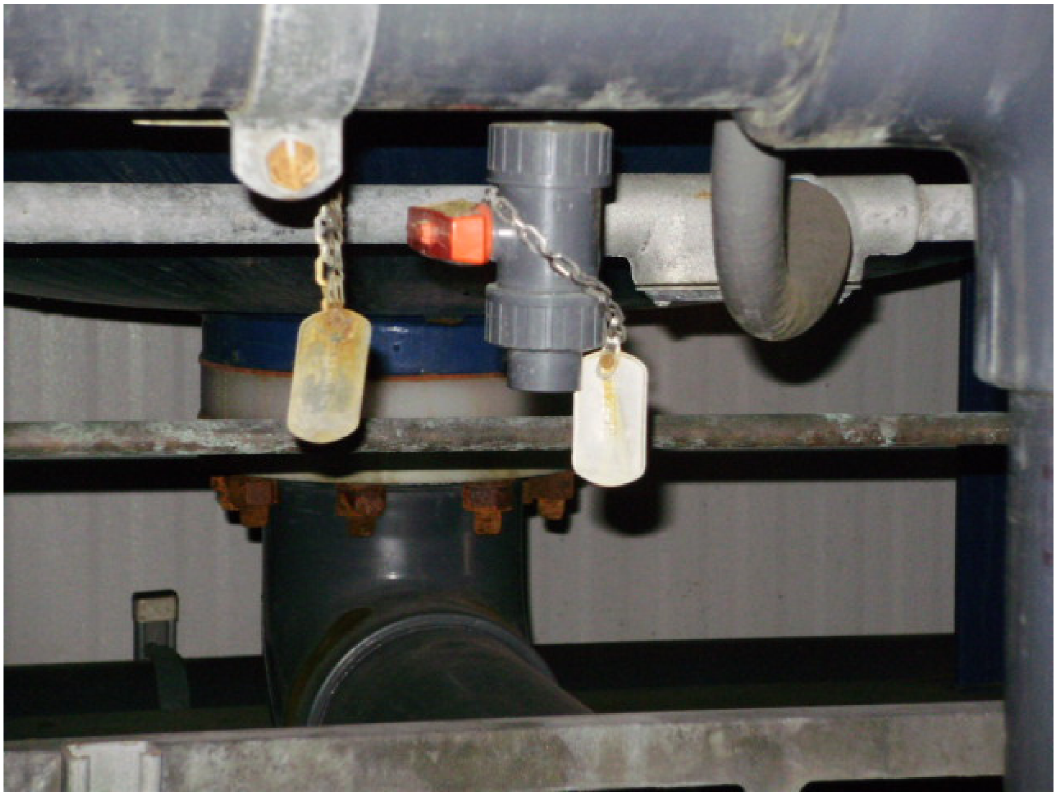


Photo 11. Closer view of the spigot at the CW-4 sample location.


Photo 12. Collection of sample CW-4.

Photo 13. Sample CW-5: CPS Softener Backwash from the A Softener Unit (O-RSS-1-1A) in the Water Treatment Building.

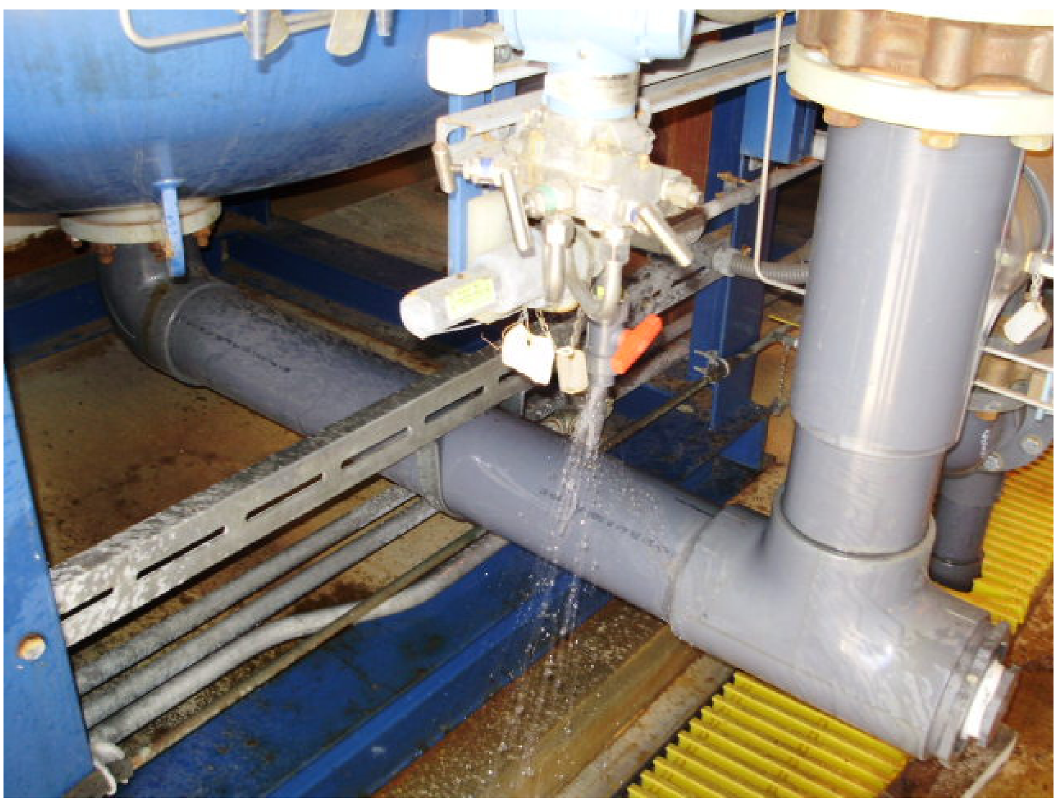


Photo 14. Closer view of the spigot at the CW-5 sample location.

Photo 15. Collection of sample CW-5.

Photo 16. Sample CW-6: CPS West Side of Metals Pond.

Photo 17. View of the west side of the CPS Metals Pond.

Photo 18. Sample CS-2: CPS Northwest Side of Metals Pond.

Photo 19. Closer view of the CS-2 sample location on the northwest side of the Metals Pond.

Photo 20. Collection of sample CS-2.

Photo 21. Sample CS-3: CPS Northwest Side of Master Sump Retention Basin (Surface Impoundment).


Photo 22. Sample collection of CS-3.

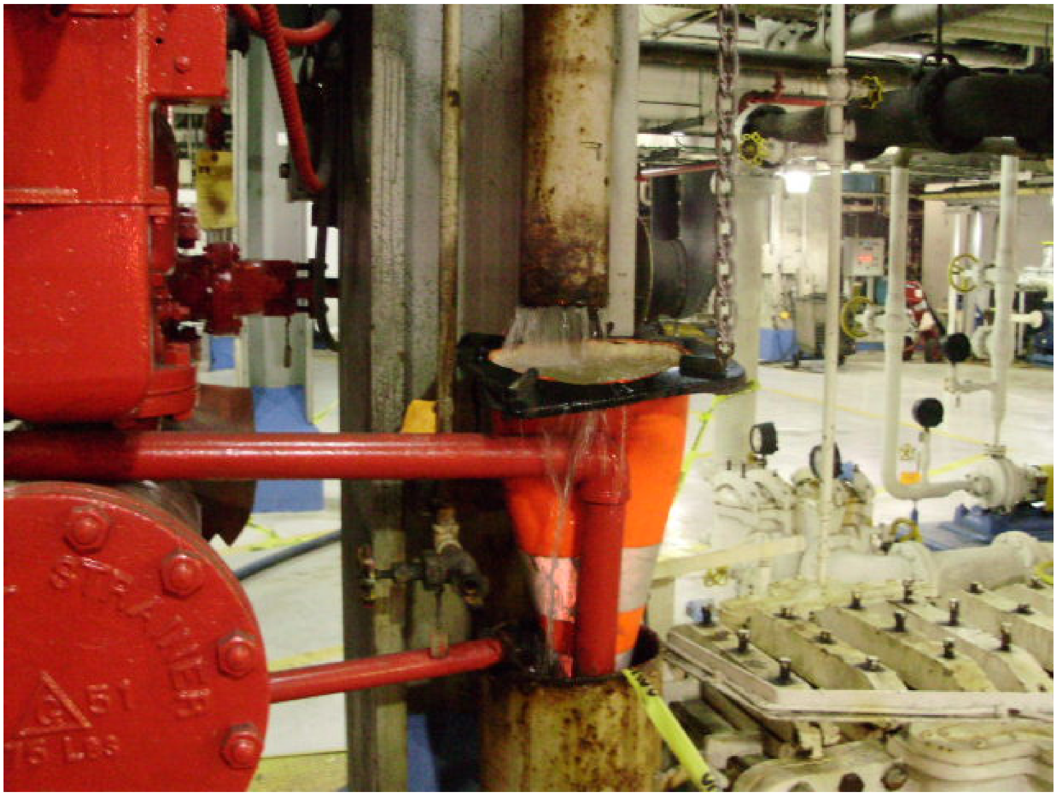


Photo 23. Sample CW-7: CPS Bearing Cooling Unit #3 Blowdown in the Plant Building.

Photo 24. Collection of sample CW-7.

Photo 25. Sample CW-8: CPS #4 Boiler Blowdown in the Plant Building.

Photo 26. Closer view of the CW-8 sample location.

Photo 27. Collection of sample CW-8.

Photo 28. Sample CW-9: CPS #6B Boiler Blowdown in the Plant Building.

Photo 29. Closer view of the CW-9 sample location.


Photo 30. Sample collection of CW-9.

Photo 31. Sample CW-10: CPS Master Sump. The duplicate sample (CW-11) along with the trip blanks (CW-11-V) were also collected at this location.

Photo 32. Closer view of the CW-10 sampling location.

Photo 33. Collection of sample CW-10 with the stainless steel bucket.

Photo 34. Sample CW-12: CPS Cooling Tower.

Photo 35. Closer view of the CW-12 sampling location.

Photo 36. Collection of sample CW-12.

APPENDIX C

CHAIN OF CUSTODIES

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Sample Submittal
Chain of Custody Record

Work Order Number:

Page 1 of 1

Client Name: SAIC	Project: EPA CCW	Turnaround Time (Required)	QC and EDD Type (Required)
Address: 12100 Sunset Hills Rd	Location: ~~Richmond, VA~~ Chester, VA	[✓] Standard	[ ] Level I (NAC) [✓] EDD
City, State, Zip: Reston, VA 20190	PO #	[ ] RUSH* (notify lab)	[ ] Level II ** Format: Excel
Contact: Brandon Peebles	Compliance Monitoring? [✓] Yes [ ] No	(needed by)	[✓] Level III ** Comments:
Telephone #: 703-375-2264	(1)Agency/Program: EPA		[ ] Level IV **

Sampled by (PRINT): Brandon Peebles Sampler Signature: [signature] Sampler Phone #: 703-375-2264

Send Report via [✓] e-mail (address) peeblesb@saic.com [✓] Mail [ ] Telephone [ ] Fax (fax #)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	SVOC/PCB	~~Metals~~	Ignit. React., pH					Comments
CS-1	S		✓		7/1/09	9:23	6	✓	✓	✓		✓					
CS-2	S		✓		7/1/09	15:05	6	✓	✓	✓		✓					
CS-3	S		✓		7/1/09	15:55	6	✓	✓	✓		✓					

Possible Hazard Identification [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive Sample Disposition [✓] Dispose as appropriate [ ] Return [ ] Archive

Number of Containers: Cooler Number:	Relinquished By (signature) [signature]	Printed Name/Affiliation Brandon Peebles	Date/Time 7/1/09 17:39	Received By (signature)	Printed Name/Affiliation
Temp upon receipt(°C):	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

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Chain of Custody Record

Work Order Number:

Page 1 of 1

Client Name	SAIC	Project	EPA CCW	Turnaround Time (Required)	QC and EDD Type (Required)
Address	12100 Sunset Hills Rd	Location	Chester, VA	[✓] Standard	[ ] Level I (NAC) / [✓] EDD
City, State, Zip	Reston, VA 20190	PO #		[ ] RUSH* (notify lab)	[ ] Level II ** / Format: Excel
Contact	Brandon Peebles	Compliance Monitoring? [✓] Yes [ ] No		(needed by)	[✓] Level III ** / Comments:
Telephone #	703-375-2264	(1)Agency/Program	EPA		[ ] Level IV **

Sampled by (PRINT) Brandon Peebles Sampler Signature [signature] Sampler Phone # 703-375-2264

Send Report via [✓] e-mail (address) peeblesb@saic.com [✓] Mail [ ] Telephone [ ] Fax (fax #)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	Metals	Reactivity	Ignitability	SVOC/PCB				Comments
CW-1	WW	✓			7/1/09	11:45	12	✓	✓	✓	✓	✓	✓				

Possible Hazard Identification [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive Sample Disposition [✓] Dispose as appropriate [ ] Return [ ] Archive

	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Number of Containers: / Cooler Number:	[signature]	Brandon Peebles	7/1/09 17:42		
Temp upon receipt(°C):	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

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Sample Submittal
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Work Order Number:

Page 1 of 1

Client Name	SAIC	Project	EPA CCW
Address	12100 Sunset Hills Road	Location	Chester, VA
City, State, Zip	Reston, VA 20190	PO #	
Contact	Brandon Peebles	Compliance Monitoring? [✓] Yes [ ] No	
Telephone #	703-375-2264	(1)Agency/Program	EPA

Turnaround Time (Required)
[✓] Standard
[ ] RUSH* (notify lab)
_______ (needed by)

QC and EDD Type (Required)
[ ] Level I (NAC)
[ ] Level II **
[✓] Level III **
[ ] Level IV **
[✓] EDD
Format: Excel
Comments:

Sampled by (PRINT): Brandon Peebles   Sampler Signature: [signature]   Sampler Phone #: 703-375-2264

Send Report via [ ] e-mail (address) peeblesb@saic.com   [✓] Mail [ ] Telephone [ ] Fax (fax #)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Requested Analysis

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	Ignitability	Metals	Reactivity	SVOC/PCB				Comments
CW-2	WW	✓			7/1/09	13:46	12	✓	✓	✓	✓	✓	✓				

Possible Hazard Identification [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive   **Sample Disposition** [✓] Dispose as appropriate [ ] Return [ ] Archive

Number of Containers:	Relinquished By (signature) [signature]	Printed Name/Affiliation Brandon Peebles	Date/Time 7/1/09 17:45	Received By (signature)	Printed Name/Affiliation
Cooler Number: Temp upon receipt(°C):	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

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Sample Submittal
Chain of Custody Record

Work Order Number:

Page 1 of 1

Client Name	SAIC	Project	EPA - CCW
Address	12100 Sunset Hills Rd	Location	Chester, VA
City, State, Zip	Reston, VA 20190	PO #	
Contact	Brandon Peebles	Compliance Monitoring?	[✓] Yes [ ] No
Telephone #	703-375-2264	(1)Agency/Program	EPA

Turnaround Time (Required)
[✓] Standard
[ ] RUSH* (notify lab)
________ (needed by)

QC and EDD Type (Required)
[ ] Level I (NAC)
[ ] Level II **
[✓] Level III **
[ ] Level IV **
[✓] EDD
Format: Excel
Comments:

Sampled by (PRINT) Brandon Peebles   Sampler Signature [signature]   Sampler Phone # 703-375-2264

Send Report via [✓] e-mail (address) peeblesb@saic.com   [✓] Mail   [ ] Telephone   [ ] Fax (fax #)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	SVOC/PCB	Ignitability	Reactivity	Metals				Comments
CW-3	WW	✓			7/1/09	14:10	12	✓	✓	✓	✓	✓	✓				

Possible Hazard Identification [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive   Sample Disposition [✓] Dispose as appropriate [ ] Return [ ] Archive

Number of Containers:	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Cooler Number:	[signature]	Brandon Peebles	7/1/09 17:49		
Temp upon receipt(°C):	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

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Page 1 of 1

Client Name: SAIC	Project: EPA-CCW	Turnaround Time (Required)	QC and EDD Type (Required)	
Address: 12100 Sunset Hills Rd	Location: Chester, VA	[✓] Standard	[ ] Level I (NAC)	[✓] EDD
City, State, Zip: Reston, VA 20190	PO #	[ ] RUSH* (notify lab)	[ ] Level II **	Format: Excel
Contact: Brandon Peebles	Compliance Monitoring? [✓] Yes [ ] No	(needed by)	[✓] Level III **	Comments:
Telephone #: 703-375-2264	(1)Agency/Program: EPA		[ ] Level IV **	

Sampled by (PRINT): Brandon Peebles Sampler Signature: [signature] Sampler Phone #: 703-375-2264

Send Report via [✓] e-mail (address) peeblesb@saic.com [✓] Mail [ ] Telephone [ ] Fax (fax #)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	SVOC/PCB	Metals	Reactivity	Ignitability				Comments
CW-4	WW	✓			7/1/09	14:32	12	✓	✓	✓	✓	✓	✓				

Requested Analysis

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Number of Containers: Cooler Number:	Relinquished By (signature) [signature]	Printed Name/Affiliation Brandon Peebles	Date/Time 7/1/09 ~~[illegible]~~ BP	Received By (signature)	Printed Name/Affiliation
Temp upon receipt(°C):	Relinquished By (signature)	Printed Name/Affiliation	Date/Time 17:54	Received By (signature)	Printed Name/Affiliation
Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

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Work Order Number:

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Client Name: SAIC
Address: 12100 Sunset Hills Rd
City, State, Zip: Reston VA 20190
Contact: Brandon Peebles
Telephone #: 703-375-2264

Project: EPA-CCW
Location: Chester, VA
PO #:
Compliance Monitoring? [✓] Yes [ ] No
(1)Agency/Program: EPA

Turnaround Time (Required)
[✓] Standard
[ ] RUSH* (notify lab)
______ (needed by)

QC and EDD Type (Required)
[ ] Level I (NAC)
[ ] Level II **
[✓] Level III **
[ ] Level IV **
[✓] EDD
Format: Excel
Comments:

Sampled by (PRINT): Brandon Peebles
Sampler Signature: [signature]
Sampler Phone #: 703-375-2264
Send Report via [✓] e-mail (address) peeblesb@saic.com [✓] Mail [ ] Telephone [ ] Fax (fax #)

* **Matrix Types:** Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	SVOC/PCB	Metals	Reactivity	Ignitability				Comments
CW-5	WW	✓			7/1/09	15:08	12	✓	✓	✓	✓	✓	✓				

Requested Analysis

Possible Hazard Identification [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive
Sample Disposition [✓] Dispose as appropriate [ ] Return [ ] Archive

Number of Containers:
Cooler Number:
Temp upon receipt(°C):
Sample Received on Ice or Refrigerated from Client: Yes / No

Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
[signature]	Brandon Peebles	7/1/09 17:59		

Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation

Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

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Page 1 of 1

Client Name	SAIC	Project	EPA - CCW
Address	12100 Sunset Hills Rd	Location	Chester, VA
City, State, Zip	Reston, VA 20190	PO #	
Contact	Brandon Peebles	Compliance Monitoring?	[✓] Yes [ ] No
Telephone #	703 375-2264	(1)Agency/Program	EPA

Turnaround Time (Required): [✓] Standard [ ] RUSH* (notify lab) ______ (needed by)

QC and EDD Type (Required): [ ] Level I (NAC) [ ] Level II ** [✓] Level III ** [ ] Level IV ** [✓] EDD Format: Excel Comments:

Sampled by (PRINT): Brandon Peebles Sampler Signature: [signature] Sampler Phone #: 703-375-2264

Send Report via [✓] e-mail (address) peeblesb@saic.com [✓] Mail [ ] Telephone [ ] Fax (fax #)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	SVOC/PCB	Metals	Reactivity	Ignitability				Comments
CW-6	WW	✓			7/1/09	15:45	12	✓	✓	✓	✓	✓	✓				

Possible Hazard Identification [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive Sample Disposition [✓] Dispose as appropriate [ ] Return [ ] Archive

Number of Containers: Cooler Number:	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
	[signature]	Brandon Peebles	7/1/09 18:05		
Temp upon receipt(°C):	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

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Sample Submittal
Chain of Custody Record

Work Order Number:

Page 1 of 1

Client Name	SAIC	Project	EPA - CCW
Address	12100 Sunset Hills Rd	Location	Chester, VA
City, State, Zip	Reston, VA 20190	PO #	
Contact	Brandon Peebles	Compliance Monitoring?	[✓] Yes [ ] No
Telephone #	703-375-2264	(1)Agency/Program	EPA

Turnaround Time (Required): [✓] Standard; [ ] RUSH* (notify lab) ______ (needed by)

QC and EDD Type (Required): [ ] Level I (NAC); [ ] Level II **; [✓] Level III **; [ ] Level IV **; [✓] EDD Format: Excel; Comments:

Sampled by (PRINT): Brandon Peebles Sampler Signature: [signature] Sampler Phone #: 703-375-2264

Send Report via: [✓] e-mail (address) peeblesb@saic.com [✓] Mail [ ] Telephone [ ] Fax (fax #)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	SVOC/PCB	Metals	Reactivity	Ignitability				Comments
CW-7	WW	✓			7/2/09	9:30	12	✓	✓	✓	✓	✓	✓				

Possible Hazard Identification: [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive

Sample Disposition: [✓] Dispose as appropriate [ ] Return [ ] Archive

Number of Containers: / Cooler Number:	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
	[signature]	Brandon Peebles	7/2/09 16:48		
Temp upon receipt(°C):	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

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Sample Submittal
Chain of Custody Record

Work Order Number:

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Client Name	SAIC	Project	EPA - CCW
Address	12100 Sunset Hills Rd	Location	Chester, VA
City, State, Zip	Reston, VA 20190	PO #	
Contact	Brandon Peebles	Compliance Monitoring?	[✓] Yes [ ] No
Telephone #	703-375-2264	(1)Agency/Program	EPA

Turnaround Time (Required)
[✓] Standard
[ ] RUSH* (notify lab)
(needed by)

QC and EDD Type (Required)
[ ] Level I (NAC)
[ ] Level II **
[✓] Level III **
[ ] Level IV **
[✓] EDD
Format: Excel
Comments:

Sampled by (PRINT) Brandon Peebles Sampler Signature [signature] Sampler Phone # 703-375-2264

Send Report via [✓] e-mail (address) peeblesb@saic.com [✓] Mail [ ] Telephone [ ] Fax (fax #)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	SVOC/PCB	Metals	Reactivity	Ignitability				Comments
CW-8	WW	✓			7/2/09	9:42	11	✓	✓	✓	✓	✓	✓				

Possible Hazard Identification [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive Sample Disposition [✓] Dispose as appropriate [ ] Return [ ] Archive

Number of Containers: Cooler Number:	Relinquished By (signature) [signature]	Printed Name/Affiliation Brandon Peebles	Date/Time 7/2/09 16:40	Received By (signature)	Printed Name/Affiliation
Temp upon receipt(°C):	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

** Surcharge May Apply to add'l QC Packages ** WHITE - LAB YELLOW - REPORT PINK - CLIENT RECEIPT Page 1 2

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Sample Submittal
Chain of Custody Record

Work Order Number:

Page 1 of 1

Client Name: SAIC	Project: EPA-CCW	**Turnaround Time (Required)**	**QC and EDD Type (Required)**
Address: 12100 Sunset Hills Rd	Location: Chester, VA	[✓] Standard	[ ] Level I (NAC) / [✓] EDD
City, State, Zip: Reston, VA 20190	PO #	[ ] RUSH* (notify lab)	[ ] Level II ** / Format: Excel
Contact: Brandon Peebles	Compliance Monitoring? [✓] Yes [ ] No	(needed by)	[✓] Level III ** / Comments:
Telephone #: 703-375-2264	(1)Agency/Program: EPA		[ ] Level IV **

Sampled by (PRINT): Brandon Peebles Sampler Signature: [signature] Sampler Phone #: 703-375-2264

Send Report via [✓] e-mail (address) peeblesb@saic.com [✓] Mail [ ] Telephone [ ] Fax (fax #)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	SVOC/PCB	Metals	Reactivity	Ignitability				Comments
CW-9	WW	✓			7/2/09	9:55	12	✓	✓	✓	✓	✓	✓				

Requested Analysis

Possible Hazard Identification [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive **Sample Disposition** [✓] Dispose as appropriate [ ] Return [ ] Archive

Number of Containers: Cooler Number:	Relinquished By (signature) [signature]	Printed Name/Affiliation Brandon Peebles	Date/Time 7/2/09 16:54	Received By (signature)	Printed Name/Affiliation
Temp upon receipt(°C):	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

** Surcharge May Apply to add'l QC Packages ** WHITE - LAB YELLOW - REPORT PINK - CLIENT RECEIPT Page 1 2

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Sample Submittal
Chain of Custody Record

Work Order Number:

Page 1 of 1

Client Name: SAIC	Project: EPA - CCW	**Turnaround Time (Required)**	**QC and EDD Type (Required)**
Address: 12100 Sunset Hills Rd	Location: Chester, VA	[✓] Standard	[ ] Level I (NAC) / [✓] EDD
City, State, Zip: Reston, VA 20190	PO #	[ ] RUSH* (notify lab)	[ ] Level II ** / Format: Excel
Contact: Brandon Peebles	Compliance Monitoring? [✓] Yes [ ] No	(needed by)	[✓] Level III ** / Comments:
Telephone #: 703-375-2264	(1)Agency/Program: EPA		[ ] Level IV **

Sampled by (PRINT): Brandon Peebles Sampler Signature: Sampler Phone #: 703-375-2264

Send Report via [✓] e-mail (address): peeblesb@saic.com [✓] Mail [ ] Telephone [ ] Fax (fax #)

* **Matrix Types:** Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Requested Analysis

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	SVOC/PCB	Metals	Reactivity	Ignitability				Comments
CW-10	WW	✓			7/2/09	11:01	12	✓	✓	✓	✓	✓	✓				

Possible Hazard Identification [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive Sample Disposition [✓] Dispose as appropriate [ ] Return [ ] Archive

Number of Containers: Cooler Number:	Relinquished By (signature)	Printed Name/Affiliation: Brandon Peebles	Date/Time: 7/2/09 17:02	Received By (signature)	Printed Name/Affiliation
Temp upon receipt(°C):	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

Page 1 2

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Sample Submittal
Chain of Custody Record

Work Order Number:

Page 1 of 1

Client Name	SAIC	Project	EPA - CCW
Address	12100 Sunset Hills Rd	Location	Chester, VA
City, State, Zip	Reston, VA 20190	PO #	
Contact	Brandon Peebles	Compliance Monitoring?	[✓] Yes [ ] No
Telephone #	703-375-2264	(1)Agency/Program	EPA

Turnaround Time (Required): [✓] Standard [ ] RUSH* (notify lab) ______ (needed by)

QC and EDD Type (Required): [ ] Level I (NAC) [ ] Level II ** [✓] Level III ** [ ] Level IV ** [✓] EDD Format: Excel Comments:

Sampled by (PRINT): Brandon Peebles Sampler Signature: [signature] Sampler Phone #: 703-375-2264

Send Report via [✓] e-mail (address) peeblesb@saic.com [✓] Mail [ ] Telephone [ ] Fax (fax #)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	SVOC/PCB	Metals	Reactivity	Ignitability				Comments
CW-11	WW	✓			7/2/09	11:17	12	✓	✓	✓	✓	✓	✓				
CW-11-V	WW	✓			7/2/09	11:12	2		✓								

Possible Hazard Identification [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive

Sample Disposition [✓] Dispose as appropriate [ ] Return [ ] Archive

Number of Containers: / Cooler Number: / Temp upon receipt(°C): / Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
	[signature]	Brandon Peebles	7/6/09 17:15		
	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

** Surcharge May Apply to add'l QC Packages **

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Work Order Number:

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Client Name	SAIC	Project	EPA - CCW
Address	12100 Sunset Hills Rd	Location	Chester, VA
City, State, Zip	Reston, VA 20190	PO #	
Contact	Brandon Peebles	Compliance Monitoring?	[✓] Yes [ ] No
Telephone #	703-375-2264	(1)Agency/Program	EPA

Turnaround Time (Required)
[✓] Standard
[ ] RUSH* (notify lab)
(needed by)

QC and EDD Type (Required)
[ ] Level I (NAC)
[ ] Level II **
[✓] Level III **
[ ] Level IV **
[✓] EDD
Format: Excel
Comments:

Sampled by (PRINT) Brandon Peebles Sampler Signature [signature] Sampler Phone # 703-375-2264

Send Report via [✓] e-mail (address) peeblesb@saic.com [✓] Mail [ ] Telephone [ ] Fax (fax #)

* Matrix Types: Soil/Solid (S), Sludge, Oil, Wipe, Drinking Water (DW), Groundwater (GW), Surface Water (SW), Waste Water (WW), Other (specify)

Client Sample ID	Matrix*	Grab	Composite	Filtered	Date Collected	Time Collected	No. of Containers	TCLP	Volatiles	SVOC/PCB/Pesticides	Herbicides	Metals	Reactivity	Ignitability			Comments
CW-12	WW	✓			7/2/09	11:44	14	✓	✓	✓	✓	✓	✓	✓			* Run Herbicides & Pesticides

Possible Hazard Identification [ ] Hazardous [✓] Non-Hazardous [ ] Radioactive Sample Disposition [✓] Dispose as appropriate [ ] Return [ ] Archive

	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Number of Containers: Cooler Number:	[signature]	Brandon Peebles	7/2/09 17:24		
Temp upon receipt(°C):	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received By (signature)	Printed Name/Affiliation
Sample Received on Ice or Refrigerated from Client: Yes / No	Relinquished By (signature)	Printed Name/Affiliation	Date/Time	Received for Lab By (signature)	Printed Name/Affiliation

APPENIDX D

LAB RESULTS

QUALIFIER	DESCRIPTION
#	QC not in acceptance limits.
A2	Results expressed as mg/L TCLP extract after performing total analysis of the sample and adjusting the result to reflect the 20 times dilution in the TCLP extraction procedure.
B	Analyte is found in method blank.
B1	Target analyte detected in method blank at or above reporting limit.
B2	Target analyte detected in method blank at or above reporting limit. Concentration found in the samples was 20 times the concentration found in the method blank.
D	Sample Diluted
H1	Sample analyzed past maximum recommended holding time.
H6	Sample received past holding time; analysis best performed at time of collection.
L2	The LCS recovery was above the laboratory acceptance limits. The target analyte concentration was below the reporting limit. No negative impact on the data.
L3	The LCS recovery was below the laboratory acceptance limits. The reported result is estimated.
M1	The matrix spike recovery was out of acceptance limits. The post digestion spike recovery was acceptable.
M2	The matrix spike recovery was biased high. The reported result was below the reporting limit. No negative impact on the data.
M3	The matrix spike recovery was biased high, the LCS recovery was acceptable.
M5	The matrix spike recovery was biased low, the reported result is estimated.
ND	Not detected.
R3	Sample Duplicate RPD was out of acceptance limits. The result concentration was within 5 times the reporting limit and the difference was less than the reporting limit.
R4	MS/MSD RPD was out of acceptance limits.
S3	Surrogate recovery was below laboratory acceptance limits. Re-extraction/re-analysis confirms low recovery due to matrix interference.
S4	Surrogate recovery was below laboratory acceptance limits. Reported data is estimated.
U	Sample concentration is less than the MDL.
V4	ICV recovery was above acceptance limits. The concentration was below the reporting limit.
V6	CCV recovery was below acceptance limits. The reported result is estimated.
Z10	PS on 09F0966-06, insufficient samp vol. for PS on 09F0966-05.
Z8	>200 °F

VOC DATA															
Field Sample ID	CW-1			CW-2			CW-3			CW-4			CW-5		
Lab Sample ID	09G0129-01			09G0129-02			09G0129-03			09G0129-04			09G0129-05		
Matrix	Water			Water			Water			Water			Water		
Sample Date	07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/01/2009		
Units	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ
1,1,1,2-Tetrachloroethane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,1,1-Trichloroethane	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,1,2,2-Tetrachloroethane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,1,2,2-Tetrachloroethylene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,1,2-Trichloroethane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,1,2-Trichloroethylene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,1-Dichloroethane	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,1-Dichloroethylene	ND	V6, U, D		ND	S4, V6, U, D	J	ND	V6, U, D		ND	V6, U, D		ND	V6, U, D	
1,1-Dichloropropylene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,2,3-Trichlorobenzene	ND	U, D		31	D	J	ND	U, D		ND	U, D		ND	U, D	
1,2,3-Trichloropropane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,2,4-Trimethylbenzene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,2-Dibromo-3-chloropropane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,2-Dibromoethane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,2-Dichloroethane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,2-Dichloropropane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,3,5-Trimethylbenzene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
1,3-Dichloropropane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
2,2-Dichloropropane	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
2-Chloroethyl Vinyl Ether	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ
2-Chlorotoluene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
4-Chlorotoluene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
4-Isopropyltoluene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Acetone	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Acetonitrile	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Acrolein	ND	U, D	UJ	ND	S4, U, D	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ
Acrylonitrile	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Allyl Chloride (3-Chloropropylene)	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Benzene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Bromobenzene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Bromochloromethane	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Bromodichloromethane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Bromoform	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Bromomethane	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Butylbenzene	30	D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Carbon disulfide	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Carbon Tetrachloride	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Chlorobenzene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Chloroethane	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Chloroform	100	D		41	S4, D	J	170	D		89	D		61	D	
Chloromethane	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Chloroprene	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
cis-1,2-Dichloroethylene	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
cis-1,3-Dichloropropylene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Dibromochloromethane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Dibromomethane	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Dichlorodifluoromethane	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Ethyl Methacrylate	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Ethylbenzene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Iodomethane	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Isopropylbenzene (Cumene)	28	D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
m,p-Xylenes	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Methacrylonitrile	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Methyl Butyl Ketone (2-Hexanone)	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Methyl Ethyl Ketone (2-Butanone)	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Methyl Isobutyl Ketone	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Methyl Methacrylate	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Methylene Chloride	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Methyl-tert-Butyl Ether	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
o-Xylene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Propionitrile (Ethyl Cyanide)	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Propylbenzene	75	D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
sec-Butylbenzene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Styrene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
tert-Butylbenzene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Toluene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Total Xylenes	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
trans-1,2-Dichloroethylene	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
trans-1,3-Dichloropropylene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
trans-1,4-Dichloro-2-butene	ND	U, D		ND	U, D	J	ND	U, D		ND	U, D		ND	U, D	
Trichlorofluoromethane	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Vinyl acetate	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	
Vinyl chloride	ND	U, D		ND	S4, U, D	J	ND	U, D		ND	U, D		ND	U, D	

VOC DATA																		
Field Sample ID	CW-6			CW-7			CW-8			CW-9			CW-10			CW-11		
Lab Sample ID	09G0129-06			09G0130-01			09G0130-02			09G0130-03			09G0130-04			09G0130-05		
Matrix	Water			Water			Water			Water			Water			Water		
Sample Date	07/01/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009		
Units	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ
1,1,1,2-Tetrachloroethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1,1-Trichloroethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1,2,2-Tetrachloroethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1,2,2-Tetrachloroethylene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1,2-Trichloroethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1,2-Trichloroethylene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1-Dichloroethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1-Dichloroethylene	ND	V6, U, D		ND	V6, U, D		ND	V6, U, D		ND	V6, U, D		ND	V6, U, D		ND	V6, U, D	
1,1-Dichloropropylene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2,3-Trichlorobenzene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2,3-Trichloropropane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2,4-Trimethylbenzene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2-Dibromo-3-chloropropane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2-Dibromoethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2-Dichloroethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2-Dichloropropane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,3,5-Trimethylbenzene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,3-Dichloropropane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
2,2-Dichloropropane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
2-Chloroethyl Vinyl Ether	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ
2-Chlorotoluene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
4-Chlorotoluene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
4-Isopropyltoluene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Acetone	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Acetonitrile	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Acrolein	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ
Acrylonitrile	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Allyl Chloride (3-Chloropropylene)	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Benzene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Bromobenzene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Bromochloromethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Bromodichloromethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Bromoform	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Bromomethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Butylbenzene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Carbon disulfide	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Carbon Tetrachloride	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Chlorobenzene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Chloroethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Chloroform	ND	U, D		50	D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Chloromethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Chloroprene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
cis-1,2-Dichloroethylene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
cis-1,3-Dichloropropylene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Dibromochloromethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Dibromomethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Dichlorodifluoromethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Ethyl Methacrylate	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Ethylbenzene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Iodomethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Isopropylbenzene (Cumene)	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
m,p-Xylenes	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methacrylonitrile	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methyl Butyl Ketone (2-Hexanone)	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methyl Ethyl Ketone (2-Butanone)	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methyl Isobutyl Ketone	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methyl Methacrylate	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methylene Chloride	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methyl-tert-Butyl Ether	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
o-Xylene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Propionitrile (Ethyl Cyanide)	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Propylbenzene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
sec-Butylbenzene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Styrene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
tert-Butylbenzene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Toluene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Total Xylenes	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
trans-1,2-Dichloroethylene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
trans-1,3-Dichloropropylene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
trans-1,4-Dichloro-2-butene	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Trichlorofluoromethane	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Vinyl acetate	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Vinyl chloride	ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D		ND	U, D	

VOC DATA															
Field Sample ID	CV-11-V			CW-12			CS-1			CS-2			CS-3		
Lab Sample ID	09G0130-06			09G0130-07			09G0129-07			09G0129-08			09G0129-09		
Matrix	Water			Water			Solid			Solid			Solid		
Sample Date	07/02/2009			07/02/2009			07/01/2009			07/01/2009			07/01/2009		
Units	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/kg	Lab Q	DVQ	ug/kg	Lab Q	DVQ	ug/kg	Lab Q	DVQ
1,1,1,2-Tetrachloroethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1,1-Trichloroethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1,2,2-Tetrachloroethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1,2,2-Tetrachloroethylene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1,2-Trichloroethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1,2-Trichloroethylene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1-Dichloroethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,1-Dichloroethylene	ND	V6, U		ND	V6, U, D		ND	U, D		ND	U, D		ND	U, D	
1,1-Dichloropropylene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2,3-Trichlorobenzene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2,3-Trichloropropane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2,4-Trimethylbenzene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2-Dibromo-3-chloropropane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2-Dibromoethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2-Dichloroethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,2-Dichloropropane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,3,5-Trimethylbenzene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
1,3-Dichloropropane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
2,2-Dichloropropane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
2-Chloroethyl Vinyl Ether	ND	U	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ
2-Chlorotoluene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
4-Chlorotoluene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
4-Isopropyltoluene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Acetone	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Acetonitrile	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Acrolein	ND	U	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ	ND	U, D	UJ
Acrylonitrile	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Allyl Chloride (3-Chloropropylene)	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Benzene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Bromobenzene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Bromochloromethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Bromodichloromethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Bromoform	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Bromomethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Butylbenzene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Carbon disulfide	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Carbon Tetrachloride	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Chlorobenzene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Chloroethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Chloroform	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Chloromethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Chloroprene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
cis-1,2-Dichloroethylene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
cis-1,3-Dichloropropylene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Dibromochloromethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Dibromomethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Dichlorodifluoromethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Ethyl Methacrylate	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Ethylbenzene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Iodomethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Isopropylbenzene (Cumene)	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
m,p-Xylenes	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methacrylonitrile	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methyl Butyl Ketone (2-Hexanone)	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methyl Ethyl Ketone (2-Butanone)	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methyl Isobutyl Ketone	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methyl Methacrylate	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methylene Chloride	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Methyl-tert-Butyl Ether	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
o-Xylene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Propionitrile (Ethyl Cyanide)	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Propylbenzene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
sec-Butylbenzene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Styrene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
tert-Butylbenzene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Toluene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Total Xylenes	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
trans-1,2-Dichloroethylene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
trans-1,3-Dichloropropylene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
trans-1,4-Dichloro-2-butene	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Trichlorofluoromethane	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Vinyl acetate	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	
Vinyl chloride	ND	U		ND	U, D		ND	U, D		ND	U, D		ND	U, D	

SVOC DATA																																																
Field Sample ID	CW-1			CW-2			CW-3			CW-4			CW-5			CW-6			CW-7			CW-8			CW-9			CW-10			CW-11			CV-11-V			CW-12			CS-1			CS-2			CS-3		
Lab Sample ID	09G0129-01			09G0129-02			09G0129-03			09G0129-04			09G0129-05			09G0129-06			09G0130-01			09G0130-02			09G0130-03			09G0130-04			09G0130-05			09G0130-06			09G0130-07			09G0129-07			09G0129-08			09G0129-09		
Matrix	Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Solid			Solid			Solid		
Sample Date	07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/01/2009			07/01/2009			07/01/2009		
Units	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/kg	Lab Q	DVQ	ug/kg	Lab Q	DVQ	ug/kg	Lab Q	DVQ
1,2,4-Trichlorobenzene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
1,2-Dichlorobenzene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		NR??			ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
1,2-Diphenylhydrazine	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
1,3-Dichlorobenzene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
1,4-Dichlorobenzene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2,4,5-Trichlorophenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2,4,6-Trichlorophenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2,4-Dichlorophenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2,4-Dimethylphenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2,4-Dinitrophenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2,4-Dinitrotoluene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2,6-Dinitrotoluene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2-Chloronaphthalene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2-Chlorophenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2-Methylnaphthalene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2-Methylphenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2-Nitroaniline	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
2-Nitrophenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
3,3´-Dichlorobenzidine	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	S4, U	
3-Nitroaniline	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
4,6-Dinitro-2-methylphenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
4-Bromophenyl-phenylether	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
4-Chloro-3-methylphenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
4-Chloroaniline	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
4-Chlorophenyl-phenylether	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
4-Methylphenol, 3-Methylphenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
4-Nitroaniline	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
4-Nitrophenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Acenaphthene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Acenaphthylene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Aniline	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Anthracene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Benz(a)anthracene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	S4, U	
Benzidine	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Benzo[a]pyrene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	S4, U	
Benzo[b]fluoranthene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	S4, U	
Benzo[g,h,i]perylene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	S4, U	
Benzo[k]fluoranthene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	S4, U	
Benzoic Acid	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Benzyl alcohol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
bis(2-Chloroethoxy)methane	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Bis(2-Chloroethyl)ether	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Bis(2-chloroisopropyl)ether	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Bis(2-Ethylhexyl)phthalate	ND	U		12			12		J	ND	U		13			11			ND	U		12			ND	U		14			14			NA			16			ND	U		ND	U		ND	S4, U	
Butylbenzylphthalate	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	S4, U	
Carbazole	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Chrysene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	S4, U	
Dibenz[a,h]anthracene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	S4, U	
Dibenzofuran	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Diethylphthalate	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Dimethylphthalate	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Di-n-butylphthalate	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Di-n-octylphthalate	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	S4, U	
Fluoranthene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Fluorene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Hexachlorobenzene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Hexachlorobutadiene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Hexachlorocyclopentadiene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Hexachloroethane	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Indeno[1,2,3-cd]pyrene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	S4, U	
Isophorone	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Naphthalene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Nitrobenzene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
N-Nitrosodimethylamine	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
N-Nitroso-di-n-propylamine	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
N-Nitrosodiphenylamine	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Pentachlorophenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Phenanthrene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Phenol	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Pyrene	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	
Pyridine	ND	U		ND	U		ND	U	J	ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		ND	U		NA			ND	U		ND	U		ND	U		ND	U	

PCB DATA																																																
Field Sample ID	CW-1			CW-2			CW-3			CW-4			CW-5			CW-6			CW-7			CW-8			CW-9			CW-10			CW-11			CV-11-V			CW-12			CS-1			CS-2			CS-3		
Lab Sample ID	09G0129-01			09G0129-02			09G0129-03			09G0129-04			09G0129-05			09G0129-06			09G0130-01			09G0130-02			09G0130-03			09G0130-04			09G0130-05			09G0130-06			09G0130-07			09G0129-07			09G0129-08			09G0129-09		
Matrix	Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Solid			Solid			Solid		
Sample Date	07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/01/2009			07/01/2009			07/01/2009		
Units	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/l	Lab Q	DVQ	ug/kg	Lab Q	DVQ	ug/kg	Lab Q	DVQ	ug/kg	Lab Q	DVQ
Aroclor 1016	ND	U		ND	U		ND	U	R	ND	U		ND	U		ND	U		ND	U		ND	U		ND	S4, U	J	ND	U		ND	U		NA			NA			ND	U		ND	U		ND	U	
Aroclor 1221	ND	U		ND	U		ND	U	R	ND	U		ND	U		ND	U		ND	U		ND	U		ND	S4, U	J	ND	U		ND	U		NA			NA			ND	U		ND	U		ND	U	
Aroclor 1232	ND	U		ND	U		ND	U	R	ND	U		ND	U		ND	U		ND	U		ND	U		ND	S4, U	J	ND	U		ND	U		NA			NA			ND	U		ND	U		ND	U	
Aroclor 1242	ND	U		ND	U		ND	U	R	ND	U		ND	U		ND	U		ND	U		ND	U		ND	S4, U	J	ND	U		ND	U		NA			NA			ND	U		ND	U		ND	U	
Aroclor 1248	ND	U		ND	U		ND	U	R	ND	U		ND	U		ND	U		ND	U		ND	U		ND	S4, U	J	ND	U		ND	U		NA			NA			ND	U		ND	U		ND	U	
Aroclor 1254	ND	U		ND	U		ND	U	R	ND	U		ND	U		ND	U		ND	U		ND	U		ND	S4, U	J	ND	U		ND	U		NA			NA			ND	U		ND	U		ND	U	
Aroclor 1260	ND	U		ND	U		ND	U	R	ND	U		ND	U		ND	U		ND	U		ND	U		ND	S4, U	J	ND	U		ND	U		NA			NA			ND	U		ND	U		ND	U	
Total PCBs	ND	U		ND	U		ND	U	R	ND	U		ND	U		ND	U		ND	U		ND	U		ND	S4, U	J	ND	U		ND	U		NA			NA			ND	U		ND	U		ND	U	

TOTAL PESTICIDE / HERBICIDE / PCB DATA			
Field Sample ID	CW-12		
Lab Sample ID	09G0130-07		
Matrix	Water		
Sample Date	07/02/2009		
Units	ug/l	Lab Q	DVQ
Aldrin	ND	U	
alpha-BHC	ND	U	
alpha-Chlordane	ND	U	
Aroclor 1016	ND	U	
Aroclor 1221	ND	U	
Aroclor 1232	ND	U	
Aroclor 1242	ND	U	
Aroclor 1248	ND	U	
Aroclor 1254	ND	U	
Aroclor 1260	ND	U	
beta-BHC	ND	U	
delta-BHC	ND	U	
Dieldrin	ND	U	
Endosulfan I	ND	U	
Endosulfan II	ND	U	
Endosulfan sulfate	ND	U	
Endrin	ND	V6, U	
Endrin aldehyde	ND	V6, U	
Endrin ketone	ND	U	
gamma-BHC	ND	U	
gamma-Chlordane	ND	U	
Heptachlor	ND	U	
Heptachlor epoxide	ND	U	
Methoxychlor	ND	V6, U	
p,p-DDD	ND	U	
p,p'-DDE	ND	U	
p,p-DDT	ND	V6, U	
Technical Chlordane	ND	U	
Total PCBs	0.0	U	
Toxaphene	ND	U	
2,4,5-TP (Silvex)	ND		J
2,4-D	ND		J

METALS, CHEM DATA																		
Field Sample ID	CW-1			CW-2			CW-3			CW-4			CW-5			CW-6		
Lab Sample ID	09G0129-01			09G0129-02			09G0129-03			09G0129-04			09G0129-05			09G0129-06		
Matrix	Water			Water			Water			Water			Water			Water		
Sample Date	07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/01/2009		
Units	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ
Aluminum	0.48			4.2			380			0.61			4.5			ND		
Antimony	ND	L2, M2		ND	L2, M2		ND	L2, M2		ND	L2, M2		ND	L2, M2		ND	L2, M2	
Arsenic	ND			ND			ND			ND			ND			0.0059		
Barium	ND			0.035			0.87			0.0059			0.020			0.32		
Beryllium	0.0016			ND			0.0025			ND			ND			ND		
Cadmium	0.0014			ND			0.0071			0.0013			0.00052			0.011		
Calcium	0.46	B1	J	18	B2	J	82	B2	J	2.4	B2	J	6.5	B2	J	1600	B2	J
Chromium	ND			0.0045			0.019			ND			ND			ND		
Cobalt	ND			ND			0.023			ND			ND			ND		
Copper	0.0018			0.0027			0.22			0.0030			0.0040			ND		
Iron	0.026			0.86			56			0.11			1.5			ND		
Lead	ND			ND			0.068			ND			ND			0.049		
Magnesium	0.11			3.9			15			0.41			1.6			7.5		
Manganese	ND			0.11			11			0.028			0.15			ND		
Nickel	ND			ND			0.025			ND			ND			ND		
Potassium	0.12			2.0			4.7			0.29			1.2			68		
Selenium	ND			ND			ND			ND			ND			0.052		
Silver	ND			ND			ND			ND			ND			ND		
Sodium	190			13			14			170			33			280		
Thallium	ND			ND			ND			ND			ND			0.048		
Vanadium	0.0080			0.0057			0.14			0.0055			0.0026			ND		
Zinc	ND			0.010			0.52			ND			0.015			ND		
Mercury	ND			ND			0.00029			ND			ND			ND		
pH	8.9	H6	J	8.6	H6	J	8.6	H6	J	8.9	H6	J	8.7	H6	J	9.1	H6	J
% Solids																		
Ignitability	>200 °F			>200 °F			>200 °F			>200 °F			>200 °F			>200 °F		
Reactive Cyanide	ND	H1	J	ND	H1	J	ND	H1	J	ND	H1	J	ND		J	ND		J
Reactive Sulfide	ND	H1	J	54	H1	J	ND	H1	J	ND	H1	J	ND		J	ND		J

Field Sample ID	CW-7			CW-8			CW-9			CW-10			CW-11			CV-11-V			CW-12		
Lab Sample ID	09G0130-01			09G0130-02			09G0130-03			09G0130-04			09G0130-05			09G0130-06			09G0130-07		
Matrix	Water			Water			Water			Water			Water			Water			Water		
Sample Date	07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009		
Units	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	ab (	DVQ	mg/l	Lab Q	DVQ
Aluminum	0.29			0.080			ND			2.2			1.5			NA			0.027		
Antimony	ND	M2, L2		ND	L2, M2		ND	L2, M2		ND	L2, M2		ND	L2, M2		NA			ND	L2, M2	
Arsenic	ND			ND			ND			ND			ND			NA			0.022		
Barium	0.025			ND			ND			0.049			0.039			NA			0.054		
Beryllium	ND			ND			ND			ND			ND			NA			ND		
Cadmium	ND			ND			ND			0.00060			ND			NA			0.0012		
Calcium	15	B2	J	0.078	B1	J	0.083	B1	J	13	B2	J	13	B2	J	NA			22	B2	J
Chromium	ND			0.0022			ND			0.0024			ND			NA			0.0013		
Cobalt	ND			ND			ND			ND			ND			NA			ND		
Copper	0.0011			0.0079			0.082			0.027			0.016			NA			0.036		
Iron	0.048			0.022			0.0053			2.6			0.62			NA			0.055		
Lead	ND			ND			ND			ND			ND			NA			ND		
Magnesium	3.3			ND			ND			3.0			2.8			NA			7.6		
Manganese	ND			ND			ND			0.048			0.046			NA			0.042		
Nickel	ND			ND			ND			ND			ND			NA			ND		
Potassium	2.0			ND			ND			1.9			1.7			NA			8.5		
Selenium	ND			ND			ND			ND			ND			NA			ND		
Silver	ND			ND			ND			ND			ND			NA			ND		
Sodium	15			2.1			ND			15			17			NA			85		
Thallium	ND			ND			ND			ND			ND			NA			ND		
Vanadium	0.0010			0.0016			0.00061			0.012			0.0068			NA			0.00070		
Zinc	ND			0.0057			0.0056			0.020			0.012			NA			0.045		
Mercury	ND			ND			ND			0.00022			ND			NA					
																NA			ND		
pH	9.1	H6	J	9.6	H6	J	9.2	H6	J	8.2	H6	J	8.2	H6	J	NA		J	8.1	H6	J
% Solids																NA					
Ignitability	>200 °F			>200 °F			>200 °F			>200 °F			>200 °F			NA			>200 °F		
Reactive Cyanide	ND	H1	J	ND	H1	J	ND	H1	J	ND	H1	J	ND	H1	J	NA		J	ND	H1	J
Reactive Sulfide	14		J	42		J	ND		J	ND		J	ND		J	NA		J	56		J

Field Sample ID	CS-1			CS-2			CS-3		
Lab Sample ID	09G0129-07			09G0129-08			09G0129-09		
Matrix	Solid			Solid			Solid		
Sample Date	07/01/2009			07/01/2009			07/01/2009		
Units	mg/kg	Lab Q	DVQ	mg/kg	Lab Q	DVQ	mg/kg	Lab Q	DVQ
Aluminum	14000			30000			11000		
Antimony	ND	V4	UJ	ND	V4	UJ	ND	V4	UJ
Arsenic	78			270			18		
Barium	580			840			300		
Beryllium	3.7			9.2			2.8		
Cadmium	1.1			1.7			1.0		
Calcium	3100			61000			4100		
Chromium	21			57			18		
Cobalt	10			24			7.0		
Copper	71			150			95		
Iron	22000	B2		25000	B2		16000	B2	
Lead	19			86			ND		
Magnesium	1100			2300			1100		
Manganese	120			120			140		
Nickel	21			48			15		
Potassium	2200	B2		4100	B2		1600	B2	
Selenium	15			130			ND		
Silver	ND			ND			ND		
Sodium	470			1000			ND		
Thallium	ND			ND			ND		
Vanadium	71			170			55		
Zinc	51			120			78		
Mercury	0.15	D		0.11	D		0.22	D	
pH	8.0		J	9.9		J	8.7		J
% Solids	60.66			59.74			33.32		
Ignitability	ND			ND			ND		
Reactive Cyanide	ND	H1	J	ND	H1	J	ND	H1	J
Reactive Sulfide	58		J	14		J	ND		J

TCLP DATA																																																	
		CW-1			CW-2			CW-3			CW-4			CW-5			CW-6			CW-7			CW-8			CW-9			CW-10			CW-11			CV-11-V			CW-12			CS-1			CS-2			CS-3		
	TCLP Regulatory Criteria	09G0129-01			09G0129-02			09G0129-03			09G0129-04			09G0129-05			09G0129-06			09G0130-01			09G0130-02			09G0130-03			09G0130-04			09G0130-05			09G0130-06			09G0130-07			09G0129-07			09G0129-08			09G0129-09		
		Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Water			Solid			Solid			Solid		
		07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/01/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/02/2009			07/01/2009			07/01/2009			07/01/2009		
	mg/l	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ	mg/l	Lab Q	DVQ
Arsenic	5	ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		NA			ND	D		ND	D		ND	D		ND	D	
Barium	100	ND	D		ND	D		0.37	D, B	J	ND	D		ND	D		0.31	D, B	J	ND	D		ND	D		ND	D		ND	D		ND	D		NA			ND	D		2.9	D, B		0.58	D, B	J	1.2	D, B	
Cadmium	1	ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		NA			ND	D		ND	D		ND	D		ND	D	
Chromium	5	ND	D		ND	D		0.012	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		NA			ND	D		ND	D		ND	D		ND	D	
Lead	5	ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		NA			ND	D		ND	D		ND	D		ND	D	
Selenium	1	ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		NA			ND	D		ND	D		ND	D		ND	D	
Silver	5	ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		NA			ND	D		ND	D		ND	D		ND	D	
Mercury	0.2	ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		ND	D		NA			ND	D		ND	D		ND	D		ND	D	
1,1,2,2-Tetrachloroethylene	0.07	ND	A2, U		ND	A2, U	J	ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		NA			ND	A2, U		ND	A2, U, D		ND	A2, U, D		ND	A2, U, D	
1,1,2-Trichloroethylene	0.5	ND	A2, U		ND	A2, U	J	ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		NA			ND	A2, U		ND	A2, U, D		ND	A2, U, D		ND	A2, U, D	
1,1-Dichloroethylene	0.7	ND	A2, V6, U		ND	2, S4, V6,	J	ND	V6, A2, U		ND	V6, A2, U		ND	A2, V6, U		ND	A2, V6, U		ND	A2, V6, U		ND	A2, V6, U		ND	A2, V6, U		ND	A2, V6, U		ND	A2, V6, U		NA			ND	V6, A2, U		ND	A2, U, D		ND	A2, U, D		ND	A2, U, D	
1,2-Dichloroethane	0.5	ND	A2, U		ND	A2, U	J	ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		NA			ND	A2, U		ND	A2, U, D		ND	A2, U, D		ND	A2, U, D	
Benzene	0.5	ND	A2, U		ND	A2, U	J	ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		NA			ND	A2, U		ND	A2, U, D		ND	A2, U, D		ND	A2, U, D	
Carbon Tetrachloride	0.5	ND	A2, U		ND	A2, U	J	ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		NA			ND	A2, U		ND	A2, U, D		ND	A2, U, D		ND	A2, U, D	
Chlorobenzene	100	ND	A2, U		ND	A2, U	J	ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		NA			ND	A2, U		ND	A2, U, D		ND	A2, U, D		ND	A2, U, D	
Chloroform	6	0.0052	A2		ND	A2, S4, U	J	0.0084	A2		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		NA			ND	A2, U		ND	A2, U, D		ND	A2, U, D		ND	A2, U, D	
Methyl Ethyl Ketone (2-Butanone)	200	ND	A2, U		ND	A2, S4, U	J	ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		NA			ND	A2, U		ND	A2, U, D		ND	A2, U, D		ND	A2, U, D	
Vinyl chloride	0.2	ND	A2, U		ND	A2, S4, U	J	ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		ND	A2, U		NA			ND	A2, U		ND	A2, U, D		ND	A2, U, D		ND	A2, U, D	
1,4-Dichlorobenzene	7.5	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
2,4,5-Trichlorophenol	400	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
2,4,6-Trichlorophenol	2	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
2,4-Dinitrotoluene	0.13	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
Hexachlorobenzene	0.13	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
Hexachlorobutadiene	0.5	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
Hexachloroethane	3	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
meta/para-Cresol	200	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
Nitrobenzene	2	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
o-Cresol	200	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
Pentachlorophenol	100	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
Pyridine	5	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
Total Cresols	200	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U		ND	U		ND	U	
Endrin	0.02	ND	S4, U	J	ND	S4, U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U	J	ND	U	J	ND	U	J
gamma-BHC	0.4	ND	S4, U	J	ND	S4, U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U	J	ND	U	J	ND	U	J
Heptachlor	0.008	ND	S4, U	J	ND	S4, U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U	J	ND	U	J	ND	U	J
Heptachlor epoxide		ND	S4, U	J	ND	S4, U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U	J	ND	U	J	ND	U	J
Methoxychlor	10	ND	S4, U	J	ND	S4, U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U	J	ND	U	J	ND	U	J
Technical Chlordane	0.3	ND	S4, U	J	ND	S4, U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U	J	ND	U	J	ND	U	J
Toxaphene	0.5	ND	S4, U	J	ND	S4, U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	ND	U	J	NA			ND	U	J	ND	U	J	ND	U	J	ND	U	J
2,4,5-TP (Silvex)	10	ND		J	ND		J	ND		J			R	ND		J	ND		J	ND			ND			ND			ND			ND			NA			ND			ND			ND			ND		
2,4-D	1	ND		J	ND		J	ND		J			R	ND		J	ND		J	ND			ND			ND			ND			ND			NA			ND			ND			ND			ND		

APPENDIX E

COMPLETE LAB DATA PACKAGE

See attached electronic CD